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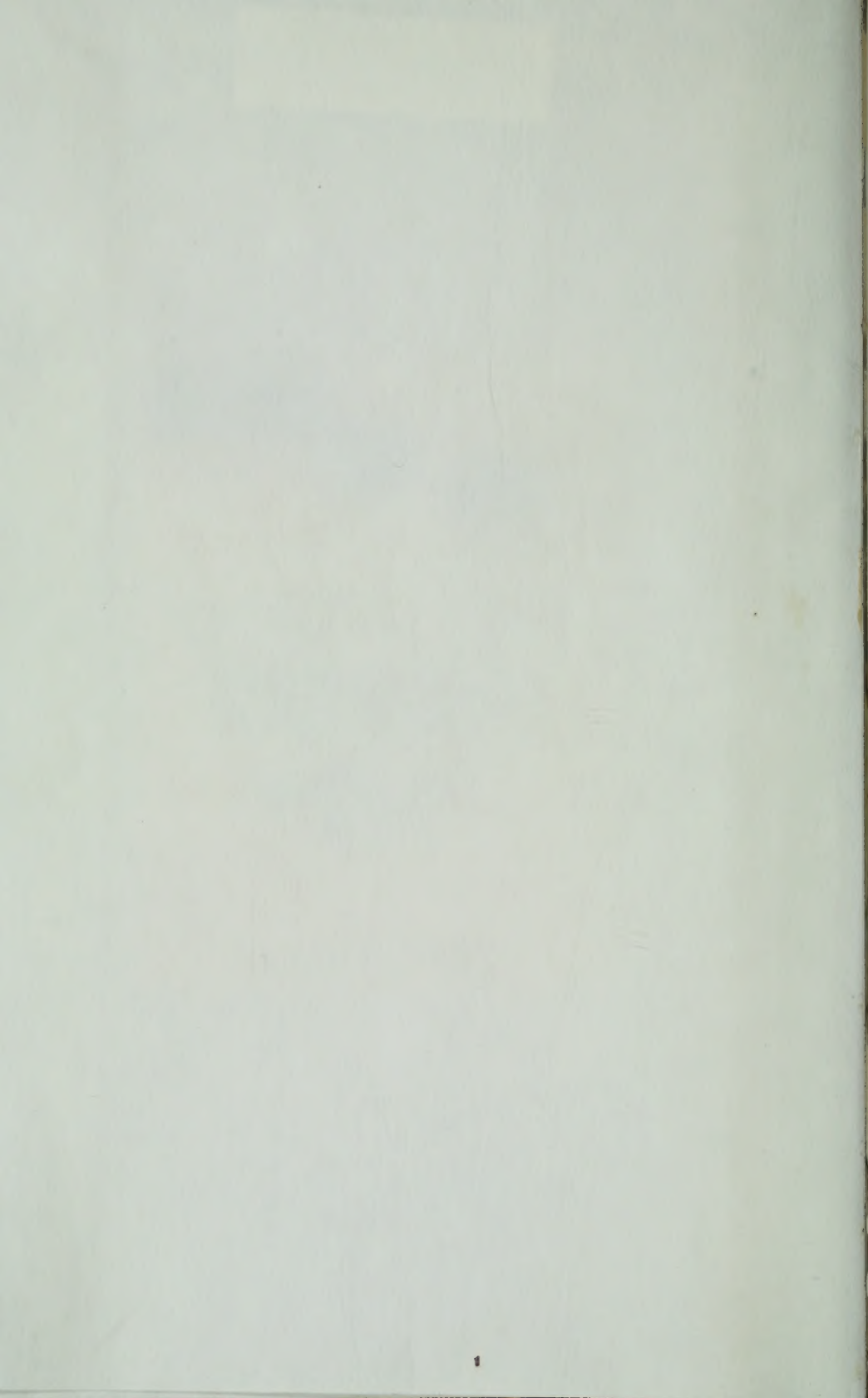
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APPENDIX TO THE JOURNALS  
OF THE  
SENATE AND ASSEMBLY  
OF THE  
THIRTY-SECOND SESSION  
OF THE  
LEGISLATURE OF THE STATE OF CALIFORNIA.  

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VOLUME II.



SACRAMENTO:  
A. J. JOHNSTON, : : : SUPERINTENDENT STATE PRINTING.  
1897.



APPENDIX TO THE JOURNALS

OF THE

SENATE AND ASSEMBLY

OF THE

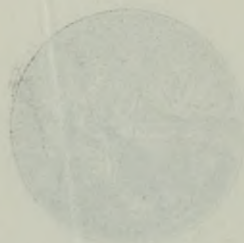
THIRTY-SECOND SESSION

OF THE

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## CONTENTS.

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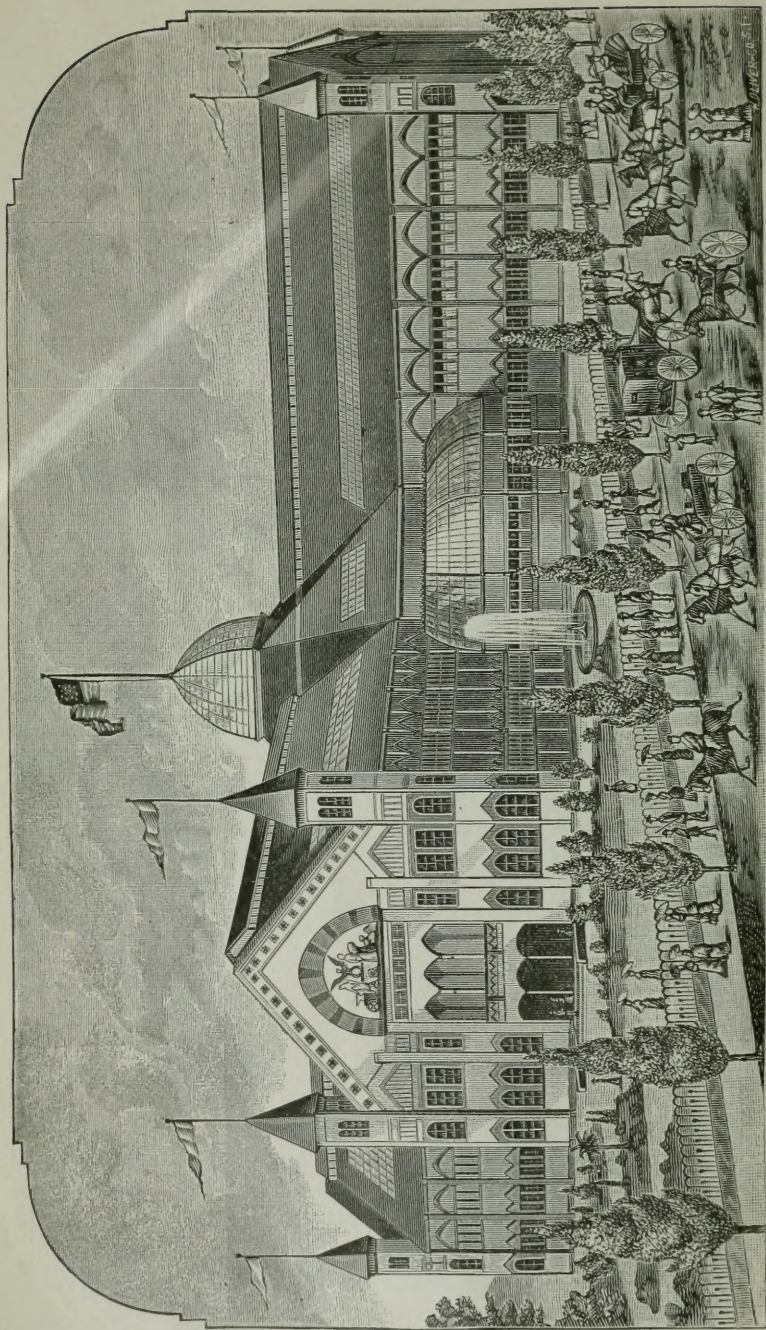
- 1—Transactions of the California State Agricultural Society. 1894.
- 2—Transactions of the California State Agricultural Society. 1895.
- 3—Biennial Report of the Board of Railroad Commissioners. 1894-1896.
- 4—Biennial Report of the Commissioner of Public Works 1894-1896.
- 5—Investigation of the Water Supply at the Home for Feeble-Minded Children. 1896.
- 6—Biennial Report of the Fish Commissioners. 1894-1896.







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STATE AGRICULTURAL AND INDUSTRIAL EXPOSITION BUILDING.  
Sacramento, California.

TRANSACTIONS  
OF THE  
CALIFORNIA  
STATE AGRICULTURAL SOCIETY  
DURING THE YEAR 1894.



SACRAMENTO:  
STATE OFFICE, : : : : A. J. JOHNSTON, SUPT. STATE PRINTING.  
1895.



# STATE BOARD OF AGRICULTURE FOR 1894.

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## DIRECTORS.

L. U. SHIPPEE .....	Stockton.
W. L. HARDISON .....	Santa Paula, Ventura County.
CHRISTOPHER GREEN .....	San Francisco.
JOHN BOGGS .....	Princeton, Colusa County.
C. M. CHASE .....	San Francisco.
W. P. MATHEWS .....	Tehama.
J. W. WILSON .....	Sacramento.
J. H. FLICKINGER .....	San José.
F. C. DELONG .....	Novato, Marin County.
G. W. HANCOCK .....	Sacramento.
FREDERICK COX .....	Sacramento.
RICHARD GIRD .....	Chino, San Bernardino County.

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## OFFICERS OF THE BOARD.

JOHN BOGGS .....	PRESIDENT, Princeton.
EDWIN F. SMITH .....	SECRETARY, Sacramento.
L. A. UPSON .....	TREASURER, Sacramento.
G. W. HANCOCK .....	SUPERINTENDENT OF PARK, Sacramento.
CHRISTOPHER GREEN .....	SUPERINTENDENT OF PAVILION, San Francisco.

# CONSTITUTION

## OF THE

# CALIFORNIA STATE AGRICULTURAL SOCIETY.

[Revised and adopted by the State Board of Agriculture, March 21, 1892.]

### NAME.

SECTION 1. This society shall be called "The California State Agricultural Society."

### OBJECT.

SEC. 2. It shall be the object of this society to encourage the cultivation of the soil, and the general development of all the agricultural resources of this State.

SEC. 3. To foster every branch of mechanical and household arts calculated to increase the comforts of home life.

SEC. 4. To extend and facilitate the various branches of mining and mining interest

### MEMBERSHIP.

SEC. 5. *Life Members.*—Any person may become a member for life by the payment of one hundred dollars; or, if owner of an exhibitor's ticket for the current year, by the payment of ninety-five dollars, or by serving a full term as a member of the State Board of Agriculture, and shall thereafter be exempt from all dues and assessments.

SEC. 6. *Honorary and Corresponding Members.*—Any person whom the Board shall propose may be elected an honorary or corresponding member, and shall enjoy, free of charge, all of the privileges of the society, except voting and holding office.

SEC. 7. *Privileges of Members.*—Any citizen of this State being a life member of this society, shall be furnished with a personal badge for his separate use, which shall entitle him to admission to all the exhibitions of the society, the quarter-stretch, and Grand and Special Stands at Park, during his lifetime, and a separate ticket for the use of his wife and minor children only, which will entitle them to admission to all the exhibitions of the society, each day, as follows: to the Park (morning), to the Park (afternoon), to the Pavilion (afternoon and evening), and shall be permitted to compete for premiums in any and all departments.

SEC. 8. *Expulsion of Members.*—Any member who shall present for exhibition any article or animal which he is not entitled by the rules of the society to exhibit, or who shall attempt to deceive, or be guilty of a breach of good faith toward the society, may be expelled by a vote of two thirds of the members present at any meeting of the Board; *provided, always,* that no member shall be expelled unless written notice of the alleged offense shall have been served on him, or left at his usual place of residence, at least twenty days previous to the action.

### OFFICERS.

SEC. 9. The officers of the society shall consist of twelve Directors, to be appointed by the Governor, who shall constitute a State Board of Agriculture, seven of whom shall constitute a quorum. The Board shall be charged with the exclusive management and control of the State Agricultural Society as a State institution; shall have possession and care of its property, and be intrusted with the direction of its entire business and financial affairs; shall have power to make all necessary changes in the constitution and rules of the society; shall provide for an annual fair or exhibition by the society of all the industries and industrial products of the State, at the City of Sacramento, and such other exhibitions as they may deem important. They shall elect one of their members as President of the Board and society, and a Treasurer and Secretary, not members of the Board. They may also appoint, annually, as officers of the Board, a chemist, a botanist, a mineralogist, a geologist, a metallurgist, an ornithologist, and an entomologist, and define the duties of each. They may appoint such committees on the various departments of agriculture, mining, and manufactures, either generally or for specific purposes, as they may deem important for the best interests of the State, and

require such committees to report the result of their investigations to the Board at such times as may be named by them.

SEC. 10. *Duties of President.*—The President shall preside at all meetings of the Board and of the society; shall have power to call special meetings of the Board when necessary, and at the written request of ten members may call extra meetings of the society; shall appoint all committees not otherwise provided for; and shall sign all financial and official documents emanating from the society, and not otherwise provided for. In the absence of the President from any meeting of the Board or society, any Director may be called to the chair, and, during such meeting, and for the completion of any business transacted or ordered at the same, shall have the same powers as the President.

SEC. 11. *Duties of Secretary.*—The Secretary shall conduct the correspondence of the Board or society, keeping copies of all important letters written in the name or on behalf of the Board or society, holding the same free to the inspection of any member of the Board or society, at any regular meeting of the same. He shall also receive and file all letters addressed to the Board or society, holding the same subject to the Board of Directors. He shall attend all meetings of the society and the Board, keeping a full record of the proceedings of each in a book for that purpose. He shall prepare and publish all notices of meetings, shall keep a roll of standing committees, and call the same (noting absences) whenever desired to do so by the Chair; shall sign all certificates for honorary and corresponding and life memberships, and forward the same to those entitled to receive them. He shall keep, in a book prepared for that purpose, the name and address of every member; shall prepare and sign all gratuitous or complimentary cards or tickets of admission; shall countersign all diplomas, certificates of merit, etc., awarded by the Board, and forward the same to their respective claimants. He shall be ex officio librarian; shall keep the seal and all the plates, dies, engravings, etc., belonging to the society, and shall cause to be struck therefrom such medals and impressions as may, from time to time, be required. He shall have charge of all specimens, models, plants, seeds, books, etc., and arrange, prepare, or distribute the same under the direction of the Board. He shall prepare all reports to be made by the Board to the society and to the State. He shall receive all moneys due or payable to the society, and pay the same to the Treasurer, taking his receipt therefor; shall hold all bonds filed by the officers of the society for the faithful performance of their duty, and all vouchers for every class of expenditure. He shall countersign all drafts ordered by the Board, and all exhibitors' certificates and life memberships, and keep an account of the same in a book as they are issued, and shall, in January of each year, prepare a tabular statement of the receipts and expenditures of the Board according to the law organizing the same.

SEC. 12. *Duties of the Treasurer.*—The Treasurer shall receipt for all funds at the hands of the Secretary, and shall disburse the same only on the order of the Board, attested by the President and the Secretary. He shall also hold in trust all certificates of stock, bonds, notes, deeds, or other evidences of debt or possession belonging to the society, and shall transfer, invest, or dispose of the same only by direction of the Board. He shall file with the Secretary a bond for the faithful performance of his duties, said bond to be approved by the Board, and shall, at the annual meeting, make to the society a detailed report of all his transactions.

#### STANDING COMMITTEES.

SEC. 13. *Committee of Finance.*—The Committee of Finance shall consist of five members of the Board, the President being one, whose duty it shall be to audit the Secretary's and Treasurer's accounts, to examine and approve all bills before they are paid, to have general supervision of the finances of the society, and to report their transactions and the financial condition of the society in full to the Board whenever called on so to do.

SEC. 14. *Library Committee.*—The Library Committee shall consist of four members of the Board, and the Secretary, whose duty it shall be to have the general supervision of the library and cabinet; to make all necessary rules and regulations for the government of the same (said rules and regulations being subject to the approval of the Board); to suggest such means for the safe-keeping and enlargement of both the library and cabinet as they may deem expedient, and to make a full report of their transactions, together with the state of the department under their charge, at each annual meeting.

SEC. 15. *Visiting Committee.*—The Visiting Committee, to be appointed by the Board from their own number, shall visit and examine all farms, orchards, vineyards, nurseries, field crops, irrigating works, agricultural machine works, agricultural machinery in operation, etc., which may be entered for competition, and which require examination at other times and places than the annual fair; to award premiums for the same according to the schedule, and to recommend such gratuities as they may deem proper, and make a full report to the Board at least one day previous to the annual fair.

SEC. 16. *Printing and Publication Committee.*—The Committee on Printing and Publication shall consist of five (the President and Secretary being two), whose duty it shall be to contract for and superintend, under the direction of the Board, all printing and publishing necessary for the society.

#### OFFICE AND ROOMS.

SEC. 17. The office, rooms, library, and cabinet of the Board and society shall be permanently located at the capital of the State.



## STATE AGRICULTURAL SOCIETY.

## AN ACT

TO PROVIDE FOR THE MANAGEMENT AND CONTROL OF THE STATE  
AGRICULTURAL SOCIETY BY THE STATE.

[Approved April 15, 1880.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. The State Agricultural Society is hereby declared a State institution.

SEC. 2. Within ten days after the passage of this Act, the Governor shall appoint twelve resident citizens of the State, who shall, when organized, constitute a State Board of Agriculture, who shall, except as hereinafter provided, hold office for the term of four years, and until their successors are appointed and qualified. Vacancies occurring from any cause in the Board shall be filled by appointment of the Governor for the unexpired term of the office vacated.

SEC. 3. Within ten days after their appointment, the persons so appointed shall qualify as required by the Constitution, and shall meet at the office of the State Agricultural Society, and organize by the election of one of their number as President of the Board and said society, who shall hold said office of President for the term of one year, and until his successor is elected and qualified. The Board shall also select a Secretary and Treasurer, not of their number, who shall each hold office at the discretion of the Board.

SEC. 4. At the same meeting the members of the Board shall, by lot or otherwise, classify themselves into four classes of three members each. The term of office of the first class shall expire at the end of the first fiscal year; of the second class, of the second year; of the third class, of the third year; of the fourth class, at the end of the full term of four years. The fiscal year shall be from the first of February to the first of February.

SEC. 5. The State Board of Agriculture shall be charged with the exclusive management and control of the State Agricultural Society as a State institution; shall have possession and care of its property, and be intrusted with the direction of its entire business and financial affairs. They shall define the duties of the Secretary and Treasurer, fix their bonds and compensation, and shall have power to make all necessary changes in the constitution and rules of the society, to adapt the same to the provisions of this Act, and to the management of the society, its meetings and exhibitions. They shall provide for the annual fair or exhibition by the society of all the industries and industrial products of the State, at the City of Sacramento; *provided*, that in no event shall the State be liable for any premium awarded or debt created by said Board of Agriculture.

SEC. 6. The Board shall have power to appoint all necessary marshals and police to keep order and preserve peace at the annual fairs of the society; and the officers so appointed shall be vested with the same authority for the preservation of order and peace, on the grounds and in the buildings of the society, that executive peace officers are vested with by law.

SEC. 7. Said Board shall use all suitable means to collect and disseminate all kinds of information calculated to educate and benefit the industrial classes, develop the resources, and advance the material interests of the State, and shall, on or before the first day of February of each year, report to the Governor a full and detailed account of their transactions, statistics, and information gained, and also a full financial statement of all funds received and disbursed. They shall also make such suggestions and recommendations as experience and good policy may dictate, to the improvement and advancement of the agricultural and kindred industries.

SEC. 8. The Superintendent of State Printing shall, each year, print and bind in cloth, four thousand volumes of said transactions, and deliver the same to said Board of Agriculture for distribution and exchange. He shall also do such job printing as said Board may require to carry out the provisions of this Act.

SEC. 9. The Directors or Board of Managers of each county and district agricultural society or association, and of county, district, or State horticultural and stock-breeding association or society, organized and acting under the laws of this State, shall report annually, on or before the first day of April, to the State Board of Agriculture, the name and Post Office address of each officer of such society or association; and, on or before the first day of December, shall report to the Board of Agriculture the transactions of said society, including the premiums offered, the list of stock and articles exhibited, and the premiums paid; the amount of receipts and expenditures for the year, the new industries inaugurated, and any and all facts and statistics showing the development and

extent of the industries, products, and resources of the county or district embraced within the management of such society or association; *provided*, that the provisions of this Act shall not apply to any Board of Commissioners or other body organized under the laws of this State, the object of which is to promote vinicultural industries, unless such Board or body shall voluntarily request the privilege of making such reports as are called for by this Act, in which case this Board or body shall enjoy equal privileges as are accorded to other institutions devoted to agriculture.

SEC. 10. To facilitate such reports, the State Board of Agriculture shall have prepared, and shall furnish such societies with necessary schedules and blanks for such reports, and such State Board shall include such reports from societies and associations, or so much thereof as they may deem advisable, in their report to the Governor.

SEC. 11. When said State Board of Agriculture shall have been organized and classified as provided herein, the Secretary of the Board shall report such organization and classification to the Governor. He shall also report any vacancy that may occur in said Board at any time.

SEC. 12. All laws and parts of laws in conflict with this Act are hereby repealed.

SEC. 13. This Act shall take effect and be in force from and after its passage.

## DISTRICT AGRICULTURAL ASSOCIATIONS.

### AN ACT

TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE, AND TO REPEAL SO MUCH OF AN ACT ENTITLED "AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE," APPROVED APRIL 15, 1880, AND OF ALL ACTS AMENDATORY THEREOF, AS ARE IN CONFLICT HEREWITH.

[Approved March 20, 1891.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. [See Act of 1893.]

SEC. 2. Where two or more counties shall constitute an agricultural district, each county shall be represented in the District Board of Directors by at least two resident citizens as Directors in said Board; *provided*, that when by reason of the formation of a new agricultural district, a Director of one district becomes a resident of another, his term of office as Director will expire in sixty days after the formation of the new agricultural district. Whenever the Board of Directors of two or more agricultural districts shall, by a majority vote of each Board, elect to unite, the said several districts may associate as one district, and hold a fair in any of said districts, and may for such purpose draw the appropriation for all of said districts, and expend the same for said fair in like manner as in the case of one district holding a separate fair.

SEC. 3. Any fifty or more persons, representing a majority of the counties within any one of the districts above constituted, may form an association for the improvement of the material industries within such district, and when so formed the association shall be known and designated by the name of — Agricultural Association, and by such name and style shall have perpetual succession, and shall have power and authority to contract and be contracted with, to sue and be sued, to have and use a common seal, to purchase and hold and lease real estate, with such buildings and improvements as may be erected thereon, and may sell and lease and dispose of the same at pleasure. The said real estate, except as hereinafter provided, shall be used by such association for the purpose of holding exhibitions of horses, cattle, and other stock, and of the agricultural, horticultural, viticultural, mechanical, manufacturing, and domestic products of such district, with view to the improvement of all industries in the same. But the said association shall have the power, and are hereby authorized, to sell and convey any portion of the real estate held by it, by whatever title derived, which may not be necessary for the permanent use of said association for the purposes aforesaid.

SEC. 4. The officers of such association shall consist of eight Directors, who shall constitute a District Board of Agriculture for District Number —; a President, who shall be one of their number; and a Secretary and Treasurer, not of their number.

SEC. 5. Within ten days after the formation of any new agricultural association within any of the districts above constituted in accordance with the provisions of this Act, and notice of such formation to the Governor, the Governor shall appoint eight resident citizens of such district as members of a District Board of Agriculture for said district, whose term of office shall be four years, except as hereinafter provided.

SEC. 6. Within ten days after their appointment, the persons so appointed shall qualify as required by the Constitution, and shall meet at a place within the district and organize by the election of one of their number as President of the Board and association, who shall hold said office of President one year, and until his successor is elected; they shall also elect a Secretary and Treasurer.

SEC. 7. At the same meeting the members of the Board shall, by lot or otherwise, classify themselves into four classes of two members each. The term of office of the first class shall expire at the end of the first fiscal year; of the second class, of the second fiscal year; of the third class, of the third fiscal year; and of the fourth class, at the end of the full term of four years. The fiscal year shall be from December first to December first; *provided*, that all officers of agricultural districts now in office under any law heretofore passed shall hold office for the term for which they were appointed, except in cases specified in section two of this Act. And the agricultural associations heretofore established shall be continued in force, and, so far as applicable, are made agricultural associations under this Act.

SEC. 8. Each association so formed and organized is hereby declared and shall be recognized a State institution, and the Board so appointed and qualified shall have the exclusive control and management of such institution for and in the name of the State, and shall have the possession and care of all the property of the association, and shall fix the terms of office and bonds of the Secretary and Treasurer, and determine their salaries and duties. They shall have power to make all necessary by-laws, rules, and regulations for the government of the association and the management of its prudential and financial affairs. They shall provide for an annual fair or exhibition by the association of all the industries and industrial products in the district, at such time and place as they deem advisable; *provided*, that no District Fair shall be held in any of the districts at the same time of the State Fair; *and provided further*, that the State shall in no event be liable for any premium offered, or award, or for any debt contracted by any District Board of Agriculture or Agricultural Association.

SEC. 9. When any District Board of Agriculture shall have been classified and organized as herein provided, the Secretary of the Board shall report such classification and organization to the State Board of Agriculture. He shall also report the same to the Governor, and shall report any vacancy that may occur in the Board to the Governor, who shall fill the same by appointment for the unexpired term.

SEC. 10. Whenever any such association shall desire to sell any portion of its real estate not needed for the permanent use of the association, for the purposes specified in section two, and such real estate be held by such association under a deed or deeds of trust conveying the said lands in trust, to be held in perpetuity as a place for holding agricultural exhibitions or fairs, or for other permanent purposes of such association, it shall be lawful for such association to file its complaint in the Superior Court of the county in which such lands are situated, setting forth the nature of the title under which they are held, and that it is the desire of the said association to sell and dispose of such real estate, and praying for judgment authorizing it to sell and convey the same. In such action the trustee or trustees in such deed or deeds, or the survivor or survivors of them, or the heirs, or administrators, or executors of deceased trustees, as the case may require, shall be made parties defendant; and upon service of the summons upon such defendants, personally, or by publication, or upon their appearance, the Court shall have full jurisdiction in the premises; and the deed executed under and in pursuance of the judgment of the Court shall be valid and effectual to convey to the purchaser the title of said association, and that of all of its predecessors in title made parties to the suit.

SEC. 11. [See Act of 1893.]

SEC. 12. This Act shall take effect from and after its passage.



## AN ACT

TO AMEND AN ACT ENTITLED "AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE, AND TO REPEAL SO MUCH OF AN ACT ENTITLED 'AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE,'" APPROVED MARCH 20, 1891, BY AMENDING SECTIONS ONE, ELEVEN, AND TWELVE.

[Approved March 23, 1893.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Section one of said Act is hereby amended to read as follows: The several counties of this State are divided and classified into agricultural districts, and numbered as follows, to wit: The counties of San Francisco and Alameda shall constitute Agricultural District No. 1. The county of San Joaquin shall constitute Agricultural District No. 2. The county of Butte shall constitute Agricultural District No. 3. The counties of Sonoma and Marin shall constitute Agricultural District No. 4. The counties of San Mateo and Santa Clara shall constitute Agricultural District No. 5. The county of Los Angeles shall constitute Agricultural District No. 6. The county of Monterey shall constitute Agricultural District No. 7. The county of El Dorado shall constitute Agricultural District No. 8. The county of Humboldt shall constitute Agricultural District No. 9. The counties of Siskiyou and Trinity shall constitute Agricultural District No. 10. The counties of Plumas and Sierra shall constitute Agricultural District No. 11. The counties of Lake and Mendocino shall constitute Agricultural District No. 12. The counties of Sutter and Yuba shall constitute Agricultural District No. 13. The county of Santa Cruz, save and except the part thereof southeast of the line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending directly northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 14. The county of Kern shall constitute Agricultural District No. 15. The county of San Luis Obispo shall constitute Agricultural District No. 16. The county of Nevada shall constitute Agricultural District No. 17. The counties of Mono, Inyo, and Alpine shall constitute Agricultural District No. 18. All that portion of Santa Barbara County lying east of the Gaviota and south of the Santa Ynez Mountains shall constitute Agricultural District No. 19. The county of Placer shall constitute Agricultural District No. 20. The county of Fresno shall constitute Agricultural District No. 21. The county of San Diego shall constitute Agricultural District No. 22. The county of Contra Costa shall constitute Agricultural District No. 23. All that part of Santa Cruz County southeast of a line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending in a direct line northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 24. The county of Napa shall constitute Agricultural District No. 25. The counties of Sacramento and Amador shall constitute Agricultural District No. 26. The county of Shasta shall constitute Agricultural District No. 27. The county of San Bernardino shall constitute Agricultural District No. 28. The county of Tuolumne shall constitute Agricultural District No. 29. The county of Tehama shall constitute Agricultural District No. 30. The county of Ventura shall constitute Agricultural District No. 31. The county of Orange shall constitute Agricultural District No. 32. The county of San Benito shall constitute Agricultural District No. 33. The counties of Modoc and Lassen shall constitute Agricultural District No. 34. The counties of Merced and Mariposa shall constitute Agricultural District No. 35. The county of Solano shall constitute Agricultural District No. 36. All that portion of Santa Barbara County not included in Agricultural District No. 19 shall constitute Agricultural District No. 37. The county of Stanislaus shall constitute Agricultural District No. 38. The county of Calaveras shall constitute Agricultural District No. 39. The counties of Yolo and Colusa shall constitute Agricultural District No. 40. The county of Del Norte shall constitute Agricultural District No. 41. The county of Glenn shall constitute Agricultural District No. 42. The county of Tulare shall constitute Agricultural District No. 43.

SEC. 2. Section eleven of said Act is hereby amended to read as follows: So much of an Act entitled "An Act to form agricultural districts, to provide for the organization of agricultural associations therein, and for the management and control of the same by the State," approved March twentieth, eighteen hundred and ninety-one, and all Acts in conflict herewith, are hereby repealed.

SEC. 3. This Act shall take effect from and after its passage.

## AN ACT

TO AMEND AN ACT ENTITLED "AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE, AND TO REPEAL SO MUCH OF AN ACT ENTITLED 'AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE,' APPROVED MARCH 20, 1891, BY AMENDING SECTIONS ONE, ELEVEN, AND TWELVE," APPROVED MARCH 23, 1893, BY AMENDING SECTION ONE THEREOF.

[Approved March 26, 1895.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Section one of said Act is hereby amended to read as follows:

Section 1. The several counties of this State are divided and classified into agricultural districts, and numbered as follows, to wit: The counties of San Francisco and Alameda shall constitute Agricultural District No. 1. The county of San Joaquin shall constitute Agricultural District No. 2. The county of Butte shall constitute Agricultural District No. 3. The counties of Sonoma and Marin shall constitute Agricultural District No. 4. The counties of San Mateo and Santa Clara shall constitute Agricultural District No. 5. The county of Los Angeles shall constitute Agricultural District No. 6. The county of Monterey shall constitute Agricultural District No. 7. The county of El Dorado shall constitute Agricultural District No. 8. The county of Humboldt shall constitute Agricultural District No. 9. The counties of Siskiyou and Trinity shall constitute Agricultural District No. 10. The county of Plumas shall constitute Agricultural District No. 11. The counties of Lake and Mendocino shall constitute Agricultural District No. 12. The counties of Sutter and Yuba shall constitute Agricultural District No. 13. The county of Santa Cruz, save and except the part thereof southeast of the line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending directly northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 14. The county of Kern shall constitute Agricultural District No. 15. The county of San Luis Obispo shall constitute Agricultural District No. 16. The county of Nevada shall constitute Agricultural District No. 17. The counties of Mono, Inyo, and Alpine shall constitute Agricultural District No. 18. All that portion of Santa Barbara County lying east of the Gaviota and south of the Santa Ynez Mountains shall constitute Agricultural District No. 19. The county of Placer shall constitute Agricultural District No. 20. The county of Fresno shall constitute Agricultural District No. 21. The county of San Diego shall constitute Agricultural District No. 22. The county of Contra Costa shall constitute Agricultural District No. 23. All that part of Santa Cruz County southeast of a line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending in a direct line northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 24. The county of Napa shall constitute Agricultural District No. 25. The counties of Sacramento and Amador shall constitute Agricultural District No. 26. The county of Shasta shall constitute Agricultural District No. 27. The county of San Bernardino shall constitute Agricultural District No. 28. The county of Tuolumne shall constitute Agricultural District No. 29. The county of Tehama shall constitute Agricultural District No. 30. The county of Ventura shall constitute Agricultural District No. 31. The county of Orange shall constitute Agricultural District No. 32. The county of San Benito shall constitute Agricultural District No. 33. The county of Lassen shall constitute Agricultural District No. 34. The counties of Merced and Mariposa shall constitute Agricultural District No. 35. The county of Solano shall constitute Agricultural District No. 36. All that portion of Santa Barbara County not included in Agricultural District No. 19 shall constitute Agricultural District No. 37. The county of Stanislaus shall constitute Agricultural District No. 38. The county of Calaveras shall constitute Agricultural District No. 39. The counties of Yolo and Colusa shall constitute Agricultural District No. 40. The county of Del Norte shall constitute Agricultural District No. 41. The county of Glenn shall constitute Agricultural District No. 42. The county of Tulare shall constitute Agricultural District No. 43. The county of Modoc shall constitute Agricultural District No. 44. The county of Sierra shall constitute Agricultural District No. 45.

## AGRICULTURAL DISTRICTS

ORGANIZED UNDER AN ACT APPROVED APRIL 15, 1880, AND AMENDED  
MARCH 6, 1883; MARCH 14, 1885; MARCH 9, 1887; MARCH 6, 1889; MARCH  
20, 1891; MARCH 23, 1893; MARCH 26, 1895.

- No. 1. The counties of San Francisco and Alameda shall constitute Agricultural District No. 1.
- No. 2. The county of San Joaquin shall constitute Agricultural District No. 2.
- No. 3. The county of Butte shall constitute Agricultural District No. 3.
- No. 4. The counties of Sonoma and Marin shall constitute Agricultural District No. 4.
- No. 5. The counties of San Mateo and Santa Clara shall constitute Agricultural District No. 5.
- No. 6. The county of Los Angeles shall constitute Agricultural District No. 6.
- No. 7. The county of Monterey shall constitute Agricultural District No. 7.
- No. 8. The county of El Dorado shall constitute Agricultural District No. 8.
- No. 9. The county of Humboldt shall constitute Agricultural District No. 9.
- No. 10. The counties of Siskiyou and Trinity shall constitute Agricultural District No. 10.
- No. 11. The county of Plumas shall constitute Agricultural District No. 11.
- No. 12. The counties of Lake and Mendocino shall constitute Agricultural District No. 12.
- No. 13. The counties of Sutter and Yuba shall constitute Agricultural District No. 13.
- No. 14. The county of Santa Cruz, save and except that part thereof southeast of the line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending directly northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 14.
- No. 15. The county of Kern shall constitute Agricultural District No. 15.
- No. 16. The county of San Luis Obispo shall constitute Agricultural District No. 16.
- No. 17. The county of Nevada shall constitute Agricultural District No. 17.
- No. 18. The counties of Alpine, Mono, and Inyo shall constitute Agricultural District No. 18.
- No. 19. All that portion of Santa Barbara County lying east of the Gaviota and south of the Santa Ynez Mountains shall constitute Agricultural District No. 19.
- No. 20. The county of Placer shall constitute Agricultural District No. 20.
- No. 21. The county of Fresno shall constitute Agricultural District No. 21.
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- No. 23. The county of Contra Costa shall constitute Agricultural District No. 23.
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- No. 26. The counties of Sacramento and Amador shall constitute Agricultural District No. 26.
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- No. 44. The county of Modoc shall constitute Agricultural District No. 44.
- No. 45. The county of Sierra shall constitute Agricultural District No. 45.



## REPORT.

OFFICE OF THE STATE BOARD OF AGRICULTURE, }  
SACRAMENTO, February 1, 1895. }

*To his Excellency JAMES H. BUDD, Governor of California:*

SIR: Our report for the fiscal year ending this date is herewith submitted, in accordance with law. Acting under the authority vested in us, our endeavor has been at all times to promote the cultivation of the soil, and to encourage to the fullest extent the development of all agricultural resources. The vocation of agriculture is looked upon by the average man as an occupation of ordinary importance, whereas it is the foundation, not only of all our commercial interests, but of American prosperity. With the impairment of agriculture must come disaster to every industry in the land; hence, our united efforts should be directed toward the stimulation of this all-important adjunct to our general business welfare.

We include in this volume the statistical report of cereals produced in California for the season of 1894, together with interesting papers upon the subject in hand, and short reviews of the resources of every county in the State, as furnished by the District Societies.

### THE SEASON OF 1894.

At the close of the season of 1894, we find the condition of the agriculturist even worse than at the end of the preceding year, although we believed and hoped there would be a marked change for the better. We based such belief upon the estimated requirements of countries importing our breadstuffs. Much to our disappointment, early in the season of 1894 Russia concluded a commercial treaty with Germany, by which the latter country reduced the duties on cereals one half. This reduction reopened the German market to Russian rye, which takes the place, to a great extent, of wheat formerly imported by Germany from America; hence, in describing the season just closed due consideration must be given to this and other conditions adverse to the farmer. Low prices—the lowest for agricultural products ever before known—followed necessarily by shrinkage of values, have left the foundation of America's progress sadly shaken, and followers of the vocation of agriculture in a condition of demoralization and disgust.

The yield of wheat in California for the season was 26,071,510 bushels; a falling off of 5,893,049 bushels from the preceding year. The acreage seeded was but about 400,000 less. The difference in yield is solely due to the inequality of rainfall. During the month of January an enormous amount of rain fell, continuing through the month of February; after which month, and until far into May, we were almost wholly without rain, so sadly needed during the growing spring months of the year. The heavy downpour of rain during the months of January and

February not only washed out considerable early-sown grain, but greatly retarded winter-seeding, thus necessitating late sowing, a large proportion of which failed to develop, for want of our usual spring rains.

During the month of March the temperature was exceedingly low, thereby entirely arresting the growth and development usually occurring during this period. This character of weather encouraged dry winds, which fast absorbed all moisture near the surface of the ground. These conditions prevailed through the months of March and April in our largest wheat-growing sections, and it was generally predicted that we would have a complete failure of cereal crops. Following this protracted dry spell there came, on the 14th of May, rainfall of from 0.25 to 1 inch, which was general over the entire State. This storm injured early hay, but greatly brightened the outlook for all grain that had withstood the long period of drought. Had this rain occurred one month earlier, we would have had an enormous yield—not less than 36,000,000 bushels of wheat. As it was, this rain was most welcome, for it made hay on a large proportion of our acreage that otherwise would not have yielded anything more than pasturage; it caused some late-sown grain to mature; it greatly aided in filling out that early sown, and it improved the quality throughout.

The amount of wheat raised in California this season under the unfavorable conditions as shown, greatly exceeded the expectations of our most competent judges, whose estimates were made early in the season.

With the maturity of grain of all kinds, prices relaxed to an extent never before experienced in American agriculture.

#### WHEAT-GROWING.

The question of wheat-growing and its future is now the all-absorbing topic among the economists of the age. It is a subject of the greatest importance, and should occupy the minds of the thinking people of these United States. It is a question that will warrant the widest discussion, and invites opinions from all parties, in the hope that from agitation beneficial results may follow. With this object in view we will not only give our opinion as to its solution, but also those of persons who have been prominent in their endeavors to solve the problem of supply and demand of this great commodity.

The merchant, mechanic, laborer, and the public in general are interested, as it is plain that when the wheat grower of a wheat-growing State is successful, all lines of trade are prosperous; otherwise, conditions are reversed. Relief must come in some way, and soon; if delayed, nothing will be left to the heretofore prosperous and happy farmer. Without adequate returns his holdings will slip from his grasp, and future continuation of his occupation will be carried on by tenants, in place of by owners. Under this condition the ability to acquire and hold land, as given under our National Constitution, will be participated in by the few. Did the framers of that great document think of this condition of affairs ever existing? We are confident they did not. Under their protecting guidance, as laid down in that instrument, we were, for all time to come, to be a free and independent people. Alas, the framers knew not of combines and trusts, or of economic changes in other countries which would so seriously affect our interests! They

knew of the oppressive hand of monarchical government, and sought to forever free us from that, believing in our ability to meet all other contingencies as they arose. Are we equal to the occasion? If so, our intellects must soon show it, if we are to save the producers of this great country.

The estimated wheat yield for the United States for the year 1894 is 460,267,416 bushels, as against 396,131,725 bushels for the preceding year, still continuing to fall about 20,000,000 bushels below the average crop of the past four years. The price per bushel for wheat has declined with the yield, until the farm price per bushel for 1894 was but 49.1 as against 53.8 in 1893. The crop of 1894 will furnish us with a surplus of about 60,000,000 bushels, which, added to our surplus on hand at the beginning of the harvest, gives us 174,000,000 bushels for export. Limiting our opinion as to what would be in the immediate interest of our State, we must reduce the acreage at least 25 per cent, using this proportion of our lands for other purposes. This reduction will leave but little surplus each season, and will permit any available land for more profitable productions, such as dairy products and prepared meats. These products could be exported to such countries as Congress may be forced (by the demands of the producers) to enact reciprocal laws with, and which are, or may become, consumers of our products.

The wheat growers of California must follow the example set some years ago by the commonwealth of Illinois. Not long since the wheat growers of that State took account of stock and found they were growing wheat at a loss. They despaired, hesitated as to what source to look for relief, but determined to try wheat another season, with the same results, however. It occurred to them that they could produce some of the necessities of life that were being shipped to them from New York, Pennsylvania, and other States, and they tried dairy products, which, from the beginning, brought good returns, and this interest has been continued until Illinois is now one of the leading States of the Union in dairy products. The wheat acreage in that State for 1889 was 2,237,861, with a yield of 37,371,081 bushels, ranking the third wheat-producing State in the Union. Her acreage of wheat in 1893 was but 1,348,462, with a yield of 15,507,313 bushels, thus moving her position to tenth in the list of wheat-producing States. In 1889 her corn acreage was 7,860,917, with a yield of 289,629,705 bushels. In 1893 her corn acreage was but 6,249,100, with a yield of 160,550,470 bushels—all of which shows that the wheat acreage did not go to corn. The decrease in acreage and in production of these staple cereals is quite noticeable; but the increase of production in dairy products in that State is still more marked. Her yield of milk in 1879 was but 45,000,000 gallons, while in 1893 the cows of that great State gave over 500,000,000 gallons of milk, from which an output of butter amounting to 20,000,000 pounds was marketed.

California must use 25 per cent of her wheat mixed with alfalfa, and increase her output of dairy products, which we are purchasing every year from other States. It is just as reasonable for the farmer to buy hay and grain for his live stock, as for the people of California to go elsewhere for the necessities of life. Our capabilities are unlimited. What we need is the energy and will to make use of them, and thereby aid in the solution of the question of supply and demand of wheat. It is a great question for economists to solve.



There is likewise something most radically wrong in the management of our Government. Some one is at fault—at variance with the commonest laws of economy. Action has been taken in aid of our manufacturing interests for protecting American labor. Some of the greatest minds of the age have advocated and urged upon the American people the necessity of such measures as would insure the great protection now accorded the manufacturing interests of America. What has been done, we ask, for the farmer? What have the same great minds advocated for the producer of agricultural staples? He has simply been left to purchase his necessities and pay for his labor in a protected market, and to sell his products in a market open to the world, and by reason of which our agricultural products are now being sold at home and abroad at or below the cost of production. Should these conditions continue, and we see but little chance at this time for Government action, there is nothing left but for the producers to solve the question themselves, as far as it is in their power so to do, by changing their entire system of farming.

In the immediate past, by the use of improved machinery in both planting and harvesting, we have been able to offset the cheap labor of the other countries in the production of wheat and other cereals; but now that these competitors are reaching out for the same implements used by us, and are, by reason of their use, extending the acreage of their country, in a great part virgin soil susceptible of great yield, and with much cheaper labor, we cannot hope, with the exhaustion of the producing power of our lands, and with the much higher cost for necessities and labor, to keep apace with the cheap lands and labor of Russia, Argentine, and Indian countries. The yield of wheat in the Argentine alone, for 1893, was almost double that for the preceding year. Her production in 1892 amounted to 30,000,000 bushels, while that for 1893 was 57,000,000.

Statistics show that in 1893 there was exported from the United States to Argentine agricultural machinery to the value of \$1,620,450, and from Great Britain the same year the following machinery: Implements, \$235,436; agricultural steam engines, \$1,174,628; other agricultural machinery, \$791,620; making a total of \$3,822,134.

Negotiations were pending in this State last season (and may still be pending) for the sale and transferring of one of our large combined harvester and manufacturing plants to the same republic. To California wheat growers this is a most precarious situation. They are aware, after two seasons like 1893 and 1894, that there is but little or no chance for revivification of prices that will warrant the vast acreage of wheat heretofore planted. So why not follow in the experience of Illinois, and convert the surplus product of wheat into more salable form?

In promulgating this advice we are aware that it is not as complete as we would wish it to be. We realize that with a general increased production throughout the United States of the products of the proposed diversification that these products will soon decline in price to a lower level. We are also aware of the stubborn fact that a reduction in the volume of wheat for export must tend to drain our country of its gold in order to meet the balance of trade against our imports. We are also aware that the gold reserve, when forced below the safety point, must give us a depreciated currency, and that a depreciated currency must entail a still greater loss on our agricultural interests. But the curtail-

ment of an unprofitable crop for a more profitable one, however temporary its beneficial effects, is the best advice we are prepared to offer at this time, and shall leave to abler minds suggestions for that greater and more permanent relief so essential to the welfare of agriculture and of all other interests.

Congress has begun, through its Committee on Agriculture, an inquiry into the causes of agricultural depression and the remedy therefor. During the month of December, 1894, this committee held several sessions in Washington, making inquiries upon the subject, and their proceedings are most interesting to students of the question. At a meeting held December 15, 1894, there appeared before them in advocacy of some relief for the American farmer the following named gentlemen, many of whom are known throughout the nation as exponents of the cause of agriculture: Mr. Alex. J. Wedderburn, Master of Virginia State Grange; Mr. Leonard Rhone, Master of Pennsylvania State Grange, and Chairman of the Executive Committee of the National Grange; Mr. Ager, Overseer of Maryland State Grange; Mr. David Lubin, of Sacramento, California, merchant and wheat grower, and a close student in political economy. The latter gentleman made an extended address to the learned committee upon the subject of depression of agriculture, and advocated as a measure of relief for the adverse conditions a Government export bounty upon agricultural staples; namely, wheat, corn, hops, tobacco, cotton, etc. Mr. Lubin's theory is that there exists in this country an inequality between the relative value of agricultural staples and manufactures, caused by legislation; that is to say, the manufacturing interest is protected by a tariff on imports, while the producer of agricultural staples cannot be benefited by this tariff, because his products are exports; therefore, he receives no benefit from Government aid. In other words, he believes that by reason of the changed adverse condition of the agriculturist, and that inasmuch as we must have a surplus of agricultural staples for export in order to pay for our imports, the Government, which now protects the manufacturers' capital and labor by an import duty, should use part of the protective revenue in the payment of an export bounty on these staple agricultural products, in order to protect them, or enhance their home and export prices in our country. The reason why manufactures and staple agriculture cannot be protected in the same manner is that it is not possible for the American agriculturist to keep up prices in the home market, because the export and home prices of a product sold in the open markets of the world are the same, and the export prices upon his products are fixed by the prices of the world's market, viz.: the Liverpool quotations; therefore, the home and export price is the Liverpool quotation, less cost of transportation from place of production to Liverpool.

In his argument before this committee, Mr. Lubin prescribes two remedies: First, free trade, with its attendant results upon the manufacturing interests; or second, protection to agricultural staples by the above referred to export bounty. Mr. Lubin's remarks before the committee, as well as those of the other advocates for Government aid, will be found in full in this volume.

The National Grange at its recent session in Springfield, Ill., had the same question under consideration. Hon. J. H. Brigham, of Ohio, is Worthy Master, and is considered high in authority upon agricultural

matters. In his address before that body he referred to the depressed prices, as follows:

"Theorizing and appealing to passions, ignorance, or prejudice will not help conditions. But if the real facts and causes can be made plain to the average farmer, he may be able in the future to guard against serious loss. For a long series of years the farmers of the United States have produced more wheat than the American people could consume, and the surplus has sought the European market. The price received for this surplus in Liverpool has governed the price of all wheat sold in the United States. In that market the American wheat comes in direct competition with the wheat growers of every country in the world which exports wheat; and when the world's crop is large, those foreign producers, who have at hand an abundance of the very cheapest labor in the world, and who have already introduced the best machinery, can eliminate all profit from the American product, and yet realize a fair profit on their investment in land and labor. Vast areas of fertile land are being annually added to the wheat fields of the world, and the improved machinery and transportation advantages now being introduced with vigor by our competitors abroad must increase competition among producers."

This is in substantiation of Mr. Lubin's policy. Continuing, Mr. Brigham says:

"The problem is a grave one. It involves the manufacturer and the laborer, as well as the farmer. In fact, every class and condition of society in the United States is seriously interested. When you touch agriculture, every industry responds, because agriculture is the basis of all prosperity. The principal customer of the manufacturer is the farmer. His net returns from the farm determines his purchasing power. If the price of his crop is reduced one half, his purchasing power is diminished to the same extent. Then the manufacturer must curtail production more than one half by reducing the number of employes or by cutting wages. This reduces the purchasing power of the employe, and thus reacts upon the manufacturer, merchant, and farmer. The industries of the United States will stand or fall together. Cheap wheat, cheap wool, and cheap cotton mean more than cheap bread and cheap clothing; it means less work and lower wages. These staples have been reduced in price one half or more, with the inevitable result. The all-important question is, will these low prices prove to be temporary or permanent?"

The question of the adverse condition being a temporary or permanent one is a most perplexing problem.

The Executive Committee of the National Grange, composed of such men of national reputation as Hon. Leonard Rhone, of Pennsylvania (Chairman), Hon. J. J. Woodman, of Michigan, Hon. R. R. Hutchinson, of Virginia, and Worthy Master Brigham, makes, in its annual report, the following recommendations, which are well worth the attention and consideration of the husbandry of the land. The report says:

"Owing to the depressed condition of agriculture, your committee deems it its duty to call to the attention of the National Grange the gravity of the situation, and to urge upon it the importance of giving the adverse condition of agriculture its most serious and earnest consideration. As to the low prices of wheat and cotton and their cost of production, it is not probable that there will be much improvement for years to come, as



with the application of new machinery our foreign competitors on the Eastern Continent—Russia, India, Egypt—and on this continent, the South American States, will soon double their productions at a much less cost, with their cheap labor, than we can produce them. In the opinion of your committee there are at least two ways open to a solution of the situation. The first is to diversify our crops and productions, and, as much as possible, build up for them a home market in our manufacturing centers. The other is by the Government paying an export bounty, so as to put our wheat and cotton on the foreign markets on equal footing with that of contiguous countries.”

Of the two propositions, it cannot be denied that diversified agriculture is a present practical duty, and should be encouraged throughout this State. This relief could be practiced with profit at least for some time to come.

Our importations from Eastern and Middle States comprise an enormous amount of hams, bacon, lard, cheese, butter, eggs, broomcorn, canned meats, and milk. This fact in itself should hasten the attempt to increase the production here of these imports. While the change in our own State might not materially affect the great question as a national issue, it would tend to alleviate, in a measure, the condition of our own people for the time being. To rely on Government aid alone will not be sufficient to overcome present difficulties. Of course it is going to be difficult to “swap horses” at this period of our trouble, but all efforts in the right direction should be made. Farm after farm is being mortgaged to the fullest extent under the present shrinkage of values, but if the lenders of money would practice a little coöperation at this time by providing a lower rate of interest, the ostensible owner would be given a breathing spell; profiting by experience, he would avoid undue extravagance, and by changing methods and practicing a vigorous economy, could work himself out of debt.

Diversified agriculture offers an advantage in a change from continued crops of the same product. It means smaller farms, increased population, better cultivation, increased fertility of soil, and an increase of yield per acre; it means the growing of every article of food used upon the farm, and an annual output of cattle, swine, and sheep, as well as of dairy products and fruit. A few head of live stock to sell each year makes a profitable showing.

Another suggestion at this time is worthy of consideration. One of the greatest drawbacks to the average farmer is his disinclination and neglect to properly keep his accounts, whereby he may be able to tell at a glance whether or not his land is making returns warranted by the expense. We venture the assertion that not one farmer in ten keeps an account with his farm in the manner it should be kept, but continues, perhaps, from year to year to lose money without knowing his actual condition until the mortgagee proceeds to foreclose. In times of prosperity he “wiggles” through without difficulty. But it is when adverse times overtake him that his lack in this respect is plainly discernible. If the merchant of the city conducted his business in a similar manner his credit would soon become so impaired as to force him to close his doors. The successful farmer knows that it requires as much good business capacity to conduct a farm, with any degree of profit, as it does to manage a mercantile house. It is a plain business proposition. Every grower should know the cost of production of his products. He should

know the amount of general expenses, of buildings and improvements, interest, and other items connected with the farm. He should keep such data that he may strike his balance at the end of the year, and note his profit or loss, if for nothing else than for future guidance. The old haphazard way of doing the business of the farm can no longer be followed. Those who are so doing fall by the wayside each year, while those who keep ahead of the interest machine will be found with a system of accurate accounts.

#### WHEAT AS FEED FOR ANIMALS.

Following in the footsteps of Kansas, one of the largest wheat-producing States of America, we have propounded a series of questions to about three hundred of our wheat growers in different counties of the State, as to the cost of production, and their ideas as to the use of wheat for feed, asking at the same time for opinions from them as to the future of wheat-growing in California, and any other practical observations as their experience might suggest.

The questions submitted, with request for careful answers, are as follows:

What does your wheat cost you per bushel in the sack, including 7 per cent interest upon value of land upon which raised, also wear and tear of equipment. If the yield is 10 bushels per acre; answer, — cents; 15 bushels per acre, — cents; 20 bushels per acre, — cents; 25 bushels per acre, — cents; 30 bushels per acre, — cents.

What is the present value of land upon which wheat is produced at cost named?

How many bushels per acre should land yield to make wheat-growing fairly profitable in your county at one cent per pound?

What proportion of wheat land in your county now yields that amount?

Have you had any experience in the use of wheat as feed for animals—horses, cattle, swine, etc.? If so, is there any reason why it should not be so used, either alone or mixed with other grains?

At present prices would it not be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened?

What profitable disposition, in your opinion, can be made of our wheat to insure the grower warranted returns?

Kindly give us any suggestions you may have, or observations you have made upon the subject, that will, in your opinion, be of interest to the general public.

The replies received were nearly one hundred in number, and may be found *in extenso* farther on in this volume, and are of a character to make them valuable contributions to this work. Deductions for incorporation here have been made, with a result showing they were wholly based upon the season of 1894, which caused to be given, in our opinion, the darkest side of the question.

The average of all the reports received as to the cost of wheat raised and in the sack, including 7 per cent interest upon value of land upon which raised, also wear and tear of equipment, with different yields, show thus: Yield of 10 bushels per acre, 70 cents per bushel; yield of 15 bushels per acre, 55 cents per bushel; yield of 20 bushels per acre, 44 cents per bushel; yield of 25 bushels per acre, 39 cents per bushel; yield of 30 bushels per acre, 35 cents per bushel. The highest and lowest average cost per bushel, given by counties, under five different yields named, and the average value per acre, by counties, of the land upon which grown, are shown as follows:

*Highest Average.*

Counties.	Yield per Acre —Bushels.	Highest Cost per Bushel.	Value of Land per Acre.
Santa Cruz .....	10	\$1 26	\$100 00
Santa Cruz .....	15	89½	100 00
Santa Cruz .....	20	71½	100 00
Santa Cruz .....	25	60½	100 00
Santa Barbara .....	30	60	30 00

*Lowest Average.*

Los Angeles .....	10	\$0 22	\$15 00
Stanislaus .....	15	32	37 00
Monterey .....	20	21½	20 00
Monterey .....	25	19½	20 00
Monterey .....	30	17¾	20 00

The average value of land in the twenty-four counties from which replies were received shows \$38 per acre—a much larger average than for lands in Kansas, where \$19 35 was the figure their lands averaged.

Our valuations range as follows: \$175 per acre in Santa Cruz; \$100 in Mendocino; \$60 to \$80 in Butte; \$30 to \$80 in San Joaquin; \$60 in Solano; \$70 in Sonoma; \$25 to \$60 in Colusa; \$30 to \$60 in Monterey; \$12 to \$40 in Tulare; \$50 in Napa; \$10 to \$30 in Stanislaus, and \$10 to \$20 in Tehama.

It is plain to be seen that a majority of these values are out of all proportion to the returns received; hence, it is quite apparent that values thus figured upon do not give the true cost of production. No one would think of buying these lands at values given, with the cost of production as much as here stated. These figures are given to show that the farmers are not figuring upon a proper basis of value. In a majority of replies to the question, "How many bushels per acre should land yield to make wheat-growing fairly profitable at one cent per pound?" the answer is 40 per cent higher than the average of the county for the past five years; and to the question following, "What proportion of the wheat land of the county now yields that amount?" the reply is, from 10 to 20 per cent. It is to be hoped that these figures, when carefully read by the producer, will have the effect of showing him that his system is all out of shape.

## THE EMBARGO ON AMERICAN MEATS.

Germany's retaliation on America for the discrimination against her sugar industries has caused the meat interest of America to move upon Congress, and ask for a repeal of the one tenth of a cent duty upon Germany's sugar. It is of much interest to America that we recede, as we certainly desire the German market for prepared meats, and if so repealed a large amount of our surplus cereals will be converted into meats.

## THE NICARAGUA CANAL.

Considering the great popularity of this question, and the great need of this canal for Western exports, we most earnestly petition Congress for the speedy passage of the bill now under consideration relating to



this great waterway. The finishing of this canal will inaugurate a new era in California.

#### OUR FRUIT INTERESTS.

The season of 1894 opened out with bright prospects for a large yield and increased demand for our fresh fruits. These conditions were maintained up to maturity of our fruit. Verified reports from the Eastern and Middle States confirmed the earlier announcements of a prospective short yield in all kinds of fruit. California growers, by reason of these conditions, saw before them what appeared to be a bright future. They, accordingly, felt exultant, not over the misfortunes of the Eastern grower, but because the two conditions of a full supply and good demand were simultaneous, and that they would reap the reward of their labor in a manifold degree. As the season progressed early estimates of the yield were being verified. Soon the heavily laden trees were ready to be relieved of their immense loads of luscious fruit, and the picking, packing, and shipping season was on with its multitude of people eager for employment. In many cases contracts had been closed for the sale of entire or portions of crops. Prosperity prevailed throughout the State, and employment was at hand for thousands of men, women, and children. The fruit season was at its zenith, and contentment reigned supreme, when suddenly, like a clap of thunder from a clear sky, came the murmuring of the great railroad strike of June, 1894, and which culminated in a complete tie-up of overland roads. Coming as it did, at the period of gathering of fruits for the Eastern market, it spread consternation among all engaged in that great industry of our State. The fruit was rapidly ripening under the warm summer sun, and contracts to fill were fast expiring, but by this fell stroke, with ample fruit to fulfill all orders, and at prices that promised profitable returns, the orchardist was forced to suspend operations, and where preparations for drying had not been made, permit his fruit to decay in the orchard. This was their return for the care, toil, and risk incurred in properly preparing their fruit for the market. Having overcome disaster through other agencies, in many cases they were awaiting returns to be applied to the cancelling of mortgages and removal of that ever dreaded incubus, interest. Words are insufficient to thoroughly describe the deplorable state many of our growers were left in by the condition of affairs brought about by this foolish strike, caused by those who had utter disregard for all interests of the State save their own.

The loss in money to the fruit growers of the State is estimated, by those most competent to judge, to have been not less than \$1,000,000. It is no little expense to bring a crop of fruit to maturity. By this strike not only the money to meet the expenses of this season was swept aside in many cases, but also that to meet current expenses until the crop of next season could be gathered and sold. The evil caused by that railroad tie-up will not be eradicated for years to come.

This misfortune seemed to leave us in "settled bad weather," which continued through to the end of the year, as prices remained impaired and confidence in trade was badly shattered.

Growers in localities with varieties of fruit that ripened later on in the season were very materially injured, as the congestion of fruit, and its delivery in poor condition, greatly affected prices realized before the

strike. Coupled with this came a fearful business depression throughout the country, so that any increase in prices was out of the question. Few obtained anything like what was expected, and then only for exceptional cases of fancy fruit.

Our output of fresh fruit under these conditions was most phenomenal. We shipped from this State nearly 8,000 carloads of fresh fruit, and of all kinds nearly 30,000 carloads. But for the strike these figures would have been increased 25 to 30 per cent.

Our ability to produce fruit in an unlimited quantity to supply the demands of consumers has been most thoroughly demonstrated. The next subject that should command attention must be the establishment of a system of marketing our products. Have we the ability for that?

The State Horticultural Convention, held in Sacramento in November last, was the most important meeting that has taken place in this State for many years, as its principal object was the consideration of the question of marketing our fresh fruits. This convention was composed of growers from all sections of the State, fruit-shipping agents, and representatives of the Southern Pacific Company. All were equally interested, and anxious for light upon this important question.

The make-up of the convention for the discussion of the subject was most appropriate: The growers representing the base, the shippers the intermediary, and the railroad company the finishing cap of the superstructure.

The growers very forcibly presented their case to the convention, showing their inability to produce the fresh fruit for market with any warrant of profit under existing conditions; that the products of their orchards were being overloaded with expense before they reached the consumers' market, which fact greatly hampered general use of our fresh fruits that are sold in competition with the Eastern product, as the prices we are compelled to meet will not, as a rule, give the grower necessary returns. They maintained that freight and refrigerator car service, as well as the delays in transit, were the most prominent barriers to their success; that \$300 per car, plus \$125 for refrigerators to Chicago, was in excess of what the interest would stand, and that a reduction of rates, faster time by freight trains, and abolishment of refrigerator cars, were quite necessary for them to make any degree of success in the business of fresh fruit shipments.

The representatives of the Southern Pacific Company informed the convention that they were there seeking information as to causes of complaints, and to discuss the subject openly with growers, that they might ascertain in what way they could meet the requests of these gentlemen. They submitted figures upon cost of service and other matters touching upon the handling of California fruits. They exhibited correspondence with connecting roads, which plainly told of their endeavors and arrangements for expedited service consummated previous to strike, and they showed further inclination to take the same subject-matter up again immediately for the coming season. They also expressed a desire to act in accordance with requests for reduction of rates, if it were possible to make arrangements with connecting lines, and invited consultation with a committee, to be named by the convention, upon the subject. They also favored any process whereby the use of refrigerator cars could be dispensed with.

On the whole, we think this public discussion was prolific of much good, as it was most earnestly considered by both sides.

The convention named a strong committee of representative growers to meet the representatives of the railroad company during the present month, and it is to be hoped that an amicable arrangement may be reached whereby this most valuable resource of our State may be maintained with profit to the grower. The convention certainly accomplished much good in promoting the question of coöperation of growers and shippers in the handling of the fresh fruit output for 1895.

A committee of progressive citizens was named by the convention to promulgate a plan, and we are credibly informed by the Chairman that the system is in a fair way to be of practical benefit during the coming season. In the southern part of the State a similar organization was recently perfected for the handling of the orange crop this present winter, and we believe the system is working satisfactorily to all concerned.

The growers of fruit throughout the State must give more attention to quality, ship nothing but the best, and establish for respective localities a reputation for superior fruit. By giving heed to these matters increased demand will follow. This fact was but recently illustrated in a conversation reported between an Eastern purchaser and a seller of California fruits. The buyer expressed preference for fruit from certain localities that had heretofore established themselves through quality of fruit dispatched. "But," said he, "I have noticed some recent shipments from Marysville, a new point to us, and they were most excellent." In just such manner did Vacaville, Newcastle, Sacramento, San José, and Los Angeles establish a reputation for their respective localities. There is no reason why other points of shipment should not make for themselves a name by shipping only the best fresh fruit.

The same rule applies to dried fruits, all of which should be graded and sold according to grades. In selling our dried fruits by sample, extra precaution should be taken in the selection of such, as there seems to be great lack of confidence between buyer and seller, for causes traceable in the past to both parties in interest. This confidence should be reestablished, and may be if proper care is taken in selection of samples and by dealing only with responsible houses. As a rule, the average buyer cannot resist the temptation to take advantage of a falling market, by the well-worn claim of "Not up to sample." Another detriment to the dried fruit interest is the consignment of goods to Eastern markets. No consignment whatever should be made, as after the fruit is there the grower has but little say as to selling price, and in nine cases out of ten not only does he get the lowest price, with attendant bill of expense, but injures the sale of such fruit as may not have been shipped, as these consigned goods are held purposely in many cases as an example as to prices. Fortunately, consignments are getting rapidly less each season. But a sufficient number have been made this season to cause reports to be sent out from various distributing points that the market is full of "rejected" fruit. All such methods have a depressing effect upon prices, and should be avoided. The system of selling f. o. b. here on inspection by authorized agent is the more preferable plan, and it is to be hoped that by coöperation another season may show marked changes in our methods of marketing dried fruit.

We have probably given more space to this subject than is our province, but it must be remembered that the State Agricultural Society was



the pioneer promoter of this now great industry, and we still have that feeling of guarding the child after it has attained manhood. We have an unrestricted interest in the subject of horticulture, and believe the practical people who follow the industry for a livelihood would prefer practical suggestions for the advancement of the industry by providing market facilities, rather than all the scientific knowledge that professors and the analyzing of soils and fertilizers could give them in the century to come. What they want now is business advice, not scientific.

#### OUR DAIRY INTERESTS.

The estimated value of the dairy products of this State for 1894 was \$14,500,000, placing this fast-increasing industry second only to wheat in the line of product values of California. With the decrease of our wheat crop, which must follow, the attention of our farmers will necessarily be turned to make use of a portion of their lands for other purposes than wheat-growing, and it is safe to say that the dairy interest will be notably increased by the change, as it is one of the diversities of farming that will warrant increased attention.

All these things mean that every farmer will keep from ten to twenty good cows, and to meet the demand coöperative creameries will be established in neighborhoods where the milk from five hundred to one thousand cows can be obtained. Again, this change means more prosperity for the farmer, improved roads, enhanced valuations of land, and more attractive and comfortable homes. Further, the keeping of more cows by the farmer means an increase in the number of hogs to be raised, fattened, and marketed. With more and better hogs the demands of this coast will be supplied, and \$1,500,000 which is annually paid for imported hog products will be kept at home.

Contemporaneous with this will come the founding of dairy schools and the holding of dairy conferences, where the true principles of breeding and feeding dairy animals, and dairy science in all its branches, could be taught, thus generally enlightening and educating farmers and dairymen in this most useful, healthful, and happy occupation. The most liberal legislative policy toward this great industry should be urged, to the end that generous appropriations be made for the establishing of a State Dairy School, and to provide for its maintenance; also that stringent and effective laws be passed which will prohibit the manufacture and sale of dairy products colored in the semblance of pure butter; and to provide for the appointment of some officer who will see that the laws are enforced. Oleomargarine and butterine will never sell on their merits, and whenever the manufacturer is compelled to prepare the fraudulent stuff in a manner that will advise the consumer of its true character, pure butter will have nothing to fear; the ruinous competition that pure butter is now compelled to meet will disappear.

There is need for more advanced education in all lines of agriculture, but in none more so than in the dairy department. In one respect particularly dairymen are not awake to their interests, and that is, they do not realize the importance and necessity of improving their herds of cows by the introduction of the best blood of the most noted and recognized breeds of special purpose dairy cattle: the Holstein, Jersey, and Guernsey, but are content with the scrub. Instead of the 300-pound butter cow, they continue "scrubbing" along with a herd of cows whose

average annual product will not exceed 125 to 150 pounds of butter per cow. It is not essential to success that the herd be composed of thoroughbred animals, but unless every cow in the herd has a goodly proportion of the blood of some special purpose dairy breed, the chances of success are materially lessened. In these days of low prices for dairy products the greatest economy must be exercised, and no better method of economy can be adopted than that of increasing the producing capacity of a herd by the introduction of new blood by the purchase and use of thoroughbred bulls of whichever breed one may fancy. The bull, however, must be of the special purpose dairy breed; and, aside from being individually superior, should have a good pedigree, showing an unbroken succession of good animals in his lineage for several generations back. For such an animal \$200 or \$300 should not be considered a high price; on the contrary, a reasonable price, and strictly along the lines of economy and self-interest.

Do not use in the herd an inferior bull, even if he be thoroughbred, but under no circumstances use a scrub. Every dairyman's aim should be to have a herd of dairy cows, each of which is capable of producing 300 pounds of butter per annum. Since Dr. Babcock has given the world such a simple and inexpensive, yet accurate, process for determining the amount of butter fat contained in milk, there can be no excuse for any dairyman keeping unprofitable cows. Weed out, breed up, and feed up the dairy cow until the dairy industry of California has become the most profitable and most important of any in the State.

The State Agricultural Society annually provides for a competitive test as to butter qualities of individual cows, by the Babcock process, and we are proud of the fact that at the last exhibition of this Society, California again demonstrated her ability to excel in the production of live stock, and led the world for the year 1894 in the yield of butter from one cow, in a three days' contest at the State Fair of 1894. The full particulars of this test, with daily figures on butter fat, as yielded by each animal competing, will be found farther on in this volume. Suffice it to say that the Jersey cow "Lady Woods" produced in this contest 7.879 pounds butter fat, equal to 9.85 pounds marketable butter, or over three pounds per day—a most remarkable yield, and a most phenomenal cow. In this showing we not only lead the great States of Wisconsin, Ohio, Indiana, and Illinois, wherein similar tests were made last year, but the entire world. It is our purpose to push these milking contests each season until it is clearly demonstrated to breeders what may be accomplished and what may be saved by making these actual tests.

The dairy business is but in its infancy in this State. We have only about 330,000 cows in service, with a yield of 156,239,066 gallons annually; of this amount 50,000,000 gallons, or one third, is consumed as milk. There is room for increase in this industry, and California offers great inducements for investment of capital in creameries. With our great scope of country that is most favorable to the growth of that succulent forage plant alfalfa, which when mixed with rolled wheat forms one of the richest milk-producing feeds known, California should now be, what she will be in the near future, a large exporting State in dairy products.

## WEATHER SERVICE.

Our Society has been coöperating through its meteorological department with the United States Weather Bureau for a number of years past, and the climatic data that have been gathered and published regularly in our annual reports are the only continuous records now in existence, and their value is becoming more and more perceptible each year. During the last two years there has been called for and duly furnished several hundred copies of the back annual reports of this Society, containing full climatic data of this entire State. In fact, the demand has been so great that the surplus reserved reports have been exhausted for one or two years.

In September, 1891, we began issuing a monthly bulletin, entitled the "California State Weather Service," coöperating with the United States Department of Agriculture, Weather Bureau branch, showing the climatic conditions of this State from over two hundred and fifty different points. These monthly reports have increased in popularity so rapidly that now scarcely a day passes but what letters are received from Eastern parties asking to be furnished with back numbers of the monthly bulletins, and the continuation of supplying them as they are regularly issued. These demands have been (when possible) cheerfully complied with. During the summer season from April to October inclusive, there is issued a weekly crop bulletin, giving the crop outlook and the effect the weather has had upon the various productions of this State. These weekly crop bulletins have rapidly increased in value and popularity. During the crop season of 1894, advance summaries were furnished to the several weekly agricultural papers and to several daily papers at their special request. A brief summary is also furnished to the different press associations, and are by them telegraphed to the various daily papers throughout the State, as well as to the Eastern press.

We are proud to say that the publications of the meteorological department of the State Agricultural Society compare favorably with those of New York, Pennsylvania, Michigan, and other States that have their own weather service. In fact, on comparison with any and all States of the Union at the World's Fair at Chicago, California's climatic showing was better represented than the majority of the States. We are in receipt of letters from the managers of the "American Agriculturist," Springfield, Mass., and of the "Field, Farm, and Fireside," of Chicago, Ill., asking to be supplied with advance reports and summaries of our weekly and monthly bulletins, to be used in their papers in giving correct and accurate information of the crop conditions and the various climatic conditions of our State. There is also being furnished valuable data of that kind to several medical journals, for publication.

A great deal more could be said in showing the rapid strides our Society has taken in fostering, improving, and disseminating as rapidly and extensively as possible, the meteorological and climatological features of the State.

The Meteorological Department of our Society has been in charge of Mr. James A. Barwick, the Observer of the United States Weather Bureau Station in Sacramento, during the past fourteen years, and through his assistance and exertions that department has become a valuable adjunct to the State Agricultural Society.



## FRUIT PESTS.

As early as 1880 the presence of injurious insect pests and tree diseases was felt, so much so that in many districts it was a question whether the business of fruit culture could be continued. In 1881 the State Board of Horticulture was organized, and at once began an active campaign against all such pests and diseases, and passed regulations against the introduction of others from the East and foreign countries. So active has been the work of this Board that no country or State can to-day boast of such exemption from insect pests as California.

The work of the State Board of Horticulture has been on two lines, protective and instructive. By means of its quarantine regulations, it has successfully prevented the introduction of devastating pests and diseases, and brought under subjugation such as had become established before its organization. To its continual watchfulness in this direction is due the fact that our orchards are in their present prosperous condition while vast areas in the East are being destroyed by such pests as the plum curculio and such diseases as the peach yellows and peach rosette. Not a tree, shrub, or plant can come into our State without passing inspection by the quarantine guardians, and thousands of infected trees and plants have been destroyed when they were found to threaten our great industry.

In its other branch, the Board has conducted extensive experiments bearing upon improved varieties of fruit, propagation, cultivation, packing, marketing, etc., and many valuable discoveries, which have been of direct money value to our fruit growers and the State, have been published by it.

The members of the State Board of Horticulture are all fruit growers. They give their time to the State gratis, and are among the most thoroughly capable men in the State, and it is to their watchful efforts that this Commission has been enabled to accomplish the good work it has done.

## THE EXHIBITION OF 1894.

The State Fair of 1894 was the agency used by nearly five hundred individuals to show 2,815 separate exhibits of the agricultural and industrial resources of California. These exhibits were made from nearly every section of the State. At an exhibition of this character the opportunities offered to both producer and purchaser are most apparent. It is the accepted occasion to show in comparison our various breeds of live stock, and to view as a whole the representatives of the great breeding farms of the State. An intending purchaser is, by reason thereof, saved the time and expense of traveling from farm to farm, and also relieved of the task of carrying in his mind, for purposes of comparison, the various points and appearances of individual stock. The knowledge of this annual collection, whereat he may view the stock side by side, makes the State Fair an objective point for the buyer where he may meet the seller upon mutual ground and trade as they should, upon actual merit. By this plan, stock that show to a disadvantage are dispatched, and their places taken by those of more improved blood lines, thereby enhancing values of all kinds of stock. The State Agricultural Society for the past forty years of its existence has been a most important factor of this interest, and the result is shown by the present standing of California as a stock-producing State.

The same rule applies to the other departments of our exhibition. The horticulturist is here annually with his display of fresh and dried fruits; the housewife with her tasty display of jellies, jams, and preserved fruits; the factory with its many samples of packed goods—making, as a whole, a most interesting exhibit of soil products and the various ways of preparing them for market. Besides, parties at interest, land owners, growers, packers, merchants, and the beginner will here be found discussing the various methods of growing, packing, and selling our great annual output of fruit. Here, more readily than from any other source, the beginner in soil culture is enabled to gather information and advice for profitable practice in his chosen industry, saving the time and expense required to work out theories which might have ended in failure. One great value of this agency to the productive interest of a State is, that it brings together annually a larger percentage of practical followers of agriculture in its various forms than any other system yet devised. The State awards assure and warrant the showing of only superior products, hence all are here assembled to learn. The investor here finds an opportunity to meet and confer with successful growers from all sections of the State, and to learn the productive capabilities of the various counties.

This Board placed the horticultural department of the State exhibit of 1894 under the direct charge of the State Board of Horticulture. The latter Board was invited to coöperate in this annual showing of products over which it has especial care, and to arrange the disposition of State funds to be used for premiums as would best suit the growers who compete in this department. The special report of the committee in charge, which was named by the State Board of Horticulture, will be found in full in this volume.

The display of agricultural and horticultural products at the Fair of 1894 was in great quantity and of most excellent quality; the same is true of the viticultural exhibit. One exhibitor showed three hundred and fifty varieties of fruit, all classified, and another over one hundred varieties of grapes. This is an extraordinary showing, and might in any other State create a most pronounced sensation, but our knowledge of and faith in the capabilities of the soil of California greatly dwarf any sensational showings made therefrom.

In the competition for awards by counties was shown every character of farm products (except live stock). The City of Sacramento, through her Board of Trustees, appropriated \$500 in gold to be awarded by the State Board of Agriculture for county exhibits. The Board of Supervisors of Sacramento County appropriated an additional \$500 to be used in the same manner. This amount of \$1,000 was added to the \$750 of State money, giving us a total of \$1,750 in cash to be competed for by the various counties of the State in a show of farm products. Sacramento County, notwithstanding she had a most excellent display, decided that, out of courtesy to other counties contesting, and by reason of her proximity to depot of supply, she would not compete for either first or second prize.

The competition between the several counties showing for these premiums was most pronounced. Tulare County, with her magnificent display of everything that was produced upon the farms in that county, succeeded in securing the first prize, Sutter County secured the second, and Sacramento the third award. It is needless to say that these

exhibits were most excellent, embracing, as they did, a fine variety of farm products of the State, arranged with painstaking care into many attractive designs.

The amount of money used for awards in this department aggregated \$4,704. This Society and the exhibitors were much pleased with the aid given by the State Board of Horticulture, as it more nearly represents the wants of the fruit growers than any other organization in the State, and in a practical way is of great assistance to the growers.

The industrial section of the exhibition of 1894 was up to the average, and gave the representatives of the various mechanical devices an opportunity, which was largely taken advantage of, to show improvements in their wares.

The Live Stock Department steadily increases in both quantity and quality, and it is estimated that the annual sales of stock made at the State Fair for the past fifteen years have averaged \$50,000 per year. The result of one race at the State Fair of 1888 caused the immediate sale of the winner (Woodnut) for \$20,000. Had the owner been less anxious to sell he could have realized, within a few months thereafter, double this amount, as was evidenced by the subsequent sale for \$50,000 of another contestant (Stamboul) in the same race, and the refusal of \$75,000 for the stallion Guy Wilkes, that also took part in the same event. It should be remembered that these prices were paid and offered for prospective producing qualities alone, as neither has been raced since that year. And still there appear, periodically, denunciatory criticisms upon horse-racing at agricultural fairs. These criticisms are, as a rule, instigated by those who see only the immoral side of life, or those who are actuated by other motives than their solicitude for the public good. Be that as it may, is not the breeding and raising of live stock an important adjunct of agriculture? The word itself signifies the growing of cereals, the rearing, feeding, and management of live stock. Hence, we say it is the duty of the Agricultural Society to promote and encourage the breeding of all kinds of improved live stock. Racing at fairs is not, as many are inclined to believe, a tax upon the State. Not one dollar of State money is used for this department of the fairs, and although more space is given to racing by the daily press, it does not comprise the entire State Fair, nor does it return much more in admission fees than the Pavilion part of the exhibition. But the press gives great space to the racing department each year, and why? The great papers of the day claim to publish only such matter as is of the utmost interest to the reading public. Now, then, if the public did not take an interest in racing the newspapers of the day would certainly not give it the prominence they do. Let the daily press illustrate and make more prominent the exhibits of agricultural products or other industries of the State that form an equally prominent part at the annual fairs, the praise of which is confined to a short review or to individual expressions of opinions by visitors, and we venture the assertion that the masses would soon condemn any newspaper that failed to give them a detailed account of the usual races held at the State Fair. It is of the great racing contests that people want to read; it is the inherent desire of man to excel, whether it be at a spelling match or at a horse race. However, California is no sufferer in a productive sense by the prominence given to racing. Has she not outshone in breeding of high-class horses the great States of this Union that held sway so long in suprem-



acy of soil and climate for the breeding of racehorses? Is there a citizen of this State, having her productive welfare at heart, who is not proud of California when he reads of the achievements of her equine produce each season throughout the land? The objects of institutions of this character are to encourage development of speed-producing qualities in the horse; of the meat and milk producing qualities in cattle, sheep, and swine, and to supply every opportunity for contests in the furtherance of these qualities, and in so doing we have assisted very materially in winning for this State the great reputation she now holds for supremacy in many of her live stock productions.

#### A MISREPRESENTATION.

The Secretary of the State Board of Examiners, in his report recently submitted for the two years ending December 31, 1894, reviews to some extent the appropriations and other matters pertaining to this Society. On page 54 he recites, in relation to the efforts of the Board of Examiners to reduce in volume and increase in value the reports of this Society, that "it was quite difficult, as we did not seem to have the coöperation of the Society." This is not true. The facts are that the Board of Examiners desired this Society to take the responsibility of cutting down the reports of the district societies, as submitted to us for 1893, while we deemed it proper that the Board of Examiners, having full control of all matters of printing, should give us authority to act, which stand on our part caused the passage of the resolution appearing in said report, denying the district societies privilege to print reports sent in. Acting under these directions, we returned reports to various district associations, with a copy of the resolution directing compliance with the law. We are and always have been most eager for a system of collecting statistics, as may be seen by reference to former reports of this Board. Our desire is, and always has been, to make these reports as valuable as possible.

On page 55 of the same report another invidious reference is made to the State Agricultural Society, and which is misleading. Following the tabulated statement of district appropriations, showing amount received and the proportion expended for premiums, a paragraph added says the "State Agricultural Society has cost the State since 1880, \$390,000." Would it not have been just as proper to show what this money was used for, as in case of district associations? A few lines of about this character would have explained to the people and members of the Legislature exactly how we have cost the State this money: The appropriations made for the State Agricultural Society since 1880 amount to \$277,800. The printing charged by the State to their account is \$111,353 90—a total of \$389,153 90. Of this amount, \$192,163 58 was awarded in premiums; \$60,000 was used in the construction of the new Agricultural Pavilion, the property of the State, leaving about \$25,000 for care and insurance of State property for fifteen years.

This, in our mind, would have been a more explicit way of showing how the institution had cost the State the amount named. We challenge comparison with any other State institution. The amount of printing seems large, but we know that nothing was ordered printed that was not necessary, and of benefit to the State. Our list of cash premiums for the period named is as follows:

1880.....	\$6,502 00	1886.....	\$13,370 58	1892.....	\$17,106 79
1881.....	6,603 65	1887.....	14,538 92	1893.....	13,244 76
1882.....	8,651 36	1888.....	14,256 98	1894.....	13,447 75
1883.....	8,915 50	1889.....	17,056 19		
1884.....	11,467 28	1890.....	15,761 45	Total .....	\$192,163 58
1885.....	13,612 27	1891.....	17,628 10		

## OTHER AGRICULTURAL ITEMS.

The present condition of trade, whereby every production of the soil is selling at a minimum figure, should not discourage investment in land. It is, in our opinion, an opportune time to purchase farming land, but not in quantity to require the aid of any great amount of help. The owner of a tract that can be farmed with little help, and which will grow a variety of products, salable at all seasons of the year, can still make a comfortable living for himself and family. It is the growers who own large tracts of land, and who must necessarily depend upon a large amount of help, that feel to the greatest extent the adverse conditions now prevailing. From this time forward the successful farmer will be the one who keeps expenses down to the minimum. No other profession or following offers greater encouragement for study at this time than does soil cultivation. In this State we have the opportunity for studying the question in its most varied forms, but it requires thought and business ability to advance the industry successfully. There are many soil products that will stand increasing even in these times, and the low prices that now prevail are caused only by the stagnation of all business enterprises. We have at this time no large enterprise in course of construction, for the reason that capital is withheld pending the solution of the conditions surrounding our financial affairs. But, in our opinion, these conditions cannot always exist. Money as well as labor must find employment, and when the end of the present depression is reached, a reaction will follow, with a demand for certain kinds of farm produce, and the growers must be prepared to take advantage of the situation at that time. In reports received and information gathered, we are informed that in many instances during the past season growers of wheat, by turning a great portion of their yield into meat, realized from \$1 to \$1 10 per cental for their wheat. With hogs selling at from 4 to 4½ cents per pound, a fair profit may be realized upon wheat. That we have not reached in production the demand for pork, lard, hams, and bacon, is shown by the fact that in 1894 we imported this character of food-meat to the value of \$1,500,000. The price of hogs has, notwithstanding, fallen to 3½ cents per pound, a decline caused entirely by the farmer's demands for money. The packer is not expected to pay any more than he is required. We think that lack of competition among packers is likewise a cause for the fall in prices.

The growing of broomcorn is another prolific interest that has been sadly neglected in this State for the past few years. We are unable at this time to get the exact figures, but know that hundreds of tons of the product of other States have been shipped into California in recent years, and the price has advanced to \$100 per ton. The river lands and irrigated districts of this State should grow enough broomcorn to

supply the entire Pacific Coast. The seed is most valuable for stock feed while the heads are in constant demand for manufacture of brooms.

It is to be hoped that the agitation for good roads will not be permitted to relax, but be continued until each county of the State has a thorough system of roads that will bear heavy use at all seasons of the year. The farmers should take great interest in this matter, as good roads will permit the hauling of produce to market during winter months, thereby saving the expense of storage, etc. A general system of permanent road structure should be made a law, and the construction should be of material that will last for a long term of years.

The disposition of the appropriations for Citrus Fairs has been made by this Board in a manner that served the citrus fruit interests to the best advantage. During the winter of 1893-4 the Northern California Citrus Fair Association elected to use the entire \$5,000 appropriated by the State, to make one elaborate exhibit at the Midwinter Fair, which was held in San Francisco in 1894, in place of the two separate fairs in as many fiscal years. As this appropriation was exempt from provisions of the Act requiring but one half of the appropriation to be used in any one fiscal year, this Board acquiesced in the proposition, and can report that a most worthy exhibit of citrus fruit from Northern and Central California was there made. The remainder of the appropriation has been placed with the citrus organization of the southern district of the State, which held one fair in March last, and proposes to hold the other during the coming spring. Repeating our advice contained in the report of 1893, we do not consider it necessary to make further special appropriations for this interest, as it is now of such magnitude as to require only general encouragement, which will at all times be given by the State Board of Agriculture.

#### NEW PARK GROUNDS.

We are in great need of additional facilities for the increased exhibit each season in our Live Stock Department. We have simply outgrown the present inadequate quarters, which are now situated in the most desirable residence portion of the City of Sacramento. This location was obtained in the early days of the Society, and at that time was sufficiently far removed from the occupied part of the city's territory. We are using by sufferance the streets and alleys of the city that are now needed by the municipality. For the purpose of obtaining a new location, the situation of which has not yet been thought of, we have caused a bill to be introduced in the present Legislature giving us authority to dispose of the present park grounds, under process of the Superior Court, and the depositing of money received therefor in the State Treasury, to be used upon approval of the State Board of Examiners for the purchase of a new site within the next two years, or as soon as the property can be sold. When this shall have been done, the new property will be held in absolute title by the State. We now hold about sixteen blocks of land, ten of which, or within a fraction thereof, are held by title vested in the State Board of Agriculture. The remaining six blocks are held by a trustee in trust, with a reversionary interest of original owners (which it is possible to obtain absolute deed for), for the use and benefit of the State Agricultural Society. The value of this entire tract is at a low estimate placed at \$60,000. This amount would purchase



and equip double the area we are now using, and which would give us ample room for the purposes desired. Upon this new tract, we could permit, in addition to the quarters for live stock, the erection of suitable pavilions by manufacturers of all kinds of farm implements, thereby relieving the Pavilion, where we likewise are crowded for space for exhibits of this character. By this method we can obtain for the State, without the necessity of an appropriation, exhibition facilities equal to, if not better than, any State in the Union. It is to be hoped the Legislature will pass this enabling Act, thereby permitting the State Board of Agriculture to obtain sufficient room for the annual exhibition of State resources, and to secure a grand property with title in fee simple vested in the State.

## FINANCIAL.

Notwithstanding the remarkable scarcity of money during the season just closed, we are able to show almost an even balance sheet—a loss on the entire year's business of but \$193 99. The net indebtedness of the Society is \$19,664 26, incurred originally in making permanent improvements to the property of the State, and for which no State money can be used. We find our list of assets and liabilities as follows:

LIABILITIES.		
Bills payable.....	\$16,986 57	
Stakes due on fixed events.....	4,675 00	
Bank of D. O. Mills & Co.....	3,471 72	
		\$25,133 29
ASSETS.		
Entrances due race account.....	\$4,925 67	
Cash balance.....	543 36	
		\$5,469 03
Net indebtedness, February 1, 1895.....		\$19,664 26

JOHN BOGGS,  
President.

EDWIN F. SMITH,  
Secretary.

## FINANCIAL STATEMENT.

FEBRUARY 1, 1894, TO JANUARY 31, 1895.

## SUMMARY.

1894.		RECEIPTS.	
Feb. 1—	Cash balance .....		\$283 41
	Rents .....	\$650 00	
	Races .....	17,182 50	
	Fixed events .....	2,920 00	
	Premiums .....	21,299 50	
	Expense rebate .....	572 00	
	Park and Pavilion receipts .....	32,987 50	
	Bills payable .....	6,986 57	
	Entrances due, collected .....	100 00	
	Interest .....	14 80	
	Bills receivable, collected .....	50 00	
	Bank of D. O. Mills & Co. ....	3,471 72	
			<u>\$86,234 59</u>
			<u>\$86,518 00</u>

## DISBURSEMENTS.

	Advertising .....	\$2,113 55	
	Expense .....	19,456 05	
	Salaries .....	5,336 00	
	Insurance .....	618 05	
	Races .....	29,220 00	
	Interest .....	2,525 40	
	Bills payable .....	10,629 35	
	Entrances due, 1894 .....	935 00	
	Profit and loss .....	173 00	
	Premiums .....	13,458 24	
	Fixed events .....	1,510 00	
1895.			
Feb. 1—	Cash balance .....	543 36	
			<u>\$86,518 00</u>

## RECEIPTS.

1894.			
Feb. 1—	Cash balance .....		\$283 41

## RENTS.

	Dodge & Hawk, Pavilion .....	\$100 00	
	Park rent, four months at \$125 .....	500 00	
	Electric Power and Light Co., bonus for engine .....	50 00	
			<u>\$650 00</u>

## RACES—1894.

Race No. 1—	The Occident Stake, payments .....	\$920 00	
2—	Pacing purse, entrances .....	750 00	
3—	Trotting purse, entrances .....	500 00	
	Gentlemen's roadster race, entrances .....	120 00	
4—	Sunny Slope Stake, entrances and forfeits .....	240 00	
5—	Selling sweepstake, entrances and forfeits .....	390 00	
6—	Guaranteed purse, entrances and forfeits .....	145 00	
7—	Guaranteed purse, entrances and forfeits .....	270 00	
8—	Selling purse, entrances and forfeits .....	100 00	
9—	Two-year-old trotting stake, entrances .....	645 00	
			<u>\$4,980 00</u>

Amount carried forward..... \$4,980 00 \$933 41

	Amount brought forward .....	\$4,080 00	\$933 41
Race No. 10	Trotting purse, entrances .....	850 00	
11	Trotting purse, entrances .....	600 00	
12	The California Annual Stake, entrances and forfeits .....	300 00	
13	The Capital City Stake, entrances and forfeits .....	445 00	
14	Guaranteed purse, entrances and forfeits .....	165 00	
15	Selling purse, entrances and forfeits .....	215 00	
16	Maiden purse, entrances and forfeits .....	140 00	
17	Three-year-old trotting stake, entrances .....	1,250 00	
18	Pacing purse, entrances .....	1,350 00	
19	Trotting purse, entrances .....	900 00	
20	Autumn Handicap, entrances and forfeits .....	370 00	
21	Free purse (substitute) .....	---	
22	Selling purse, entrances and forfeits .....	170 00	
23	The Del Mar Stake, entrances and forfeits .....	280 00	
24	Selling purse, entrances and forfeits .....	205 00	
25	Two-year-old pacing stake, entrances and forfeits .....	245 00	
27	Trotting purse, entrances .....	800 00	
28	Trotting purse, entrances .....	680 00	
29	Selling purse, entrances and forfeits .....	232 50	
30	The Rosemeade Stake, entrances .....	195 00	
31	The Fall Stake, entrances .....	320 00	
32	Hurdle race, entrances .....	60 00	
33	Free purse .....	---	
34	Free-for-all trot, entrances .....	600 00	
35	Pacing purse, entrances .....	690 00	
36	Three-year-old pace, entrances .....	300 00	
37	California State Fair Futurity Stake, entrances .....	1,740 00	
			\$17,182 50
FIXED EVENTS.			
	Occident Stake, 1895 .....	\$500 00	
	Occident Stake, 1896 .....	430 00	
	Occident Stake, 1897 .....	530 00	
	\$5,000 guaranteed stake .....	1,375 00	
	Futurity Stake, collections 1893 .....	20 00	
	Occident Stake, collections 1893 .....	65 00	
			\$2,920 00
PREMIUMS.			
	State warrant for premiums and care of building .....	\$20,000 00	
	Sweepstake entries .....	299 50	
	Sacramento City and County, appropriation for Horti- cultural Department .....	1,000 00	
			\$21,299 50
EXPENSE REBATE.			
	Sale of canvas .....	\$60 00	
	Sale of chariots .....	100 00	
	Wm. Gardner, sundries .....	113 45	
	Forage sold at Park .....	255 30	
	Gas, etc. ....	43 25	
			\$572 00
PARK AND PAVILION RECEIPTS.			
Sept. 3	Ticket sales, Pavilion .....	\$165 00	
4	Ticket sales, Pavilion .....	379 25	
5	Ticket sales, Pavilion .....	374 00	
6	Ticket sales, Pavilion .....	494 75	
7	Ticket sales, Pavilion .....	406 25	
8	Ticket sales, Pavilion .....	754 50	
9	Ticket sales, Pavilion .....	229 25	
10	Ticket sales, Pavilion .....	597 75	
11	Ticket sales, Pavilion .....	780 25	
12	Ticket sales, Pavilion .....	1,038 75	
13	Ticket sales, Pavilion .....	1,412 50	
14	Ticket sales, Pavilion .....	1,317 50	
15	Ticket sales, Pavilion .....	1,513 50	
	Merchants' books .....	569 85	
			\$10,033 10
Sept. 3	Ticket sales, Park .....	\$50 00	
4	Ticket sales, Park .....	65 00	
5	Ticket sales, Park .....	105 00	
6	Ticket sales, Park .....	975 75	
7	Ticket sales, Park .....	698 25	
8	Ticket sales, Park .....	746 75	
	Amount carried forward .....	\$2,640 75	\$52,940 51



	Amount brought forward .....	\$2,640 75	\$52,940 51
Sept. 10—	Ticket sales, Park .....	929 75	
11—	Ticket sales, Park .....	827 00	
12—	Ticket sales, Park .....	1,059 00	
13—	Ticket sales, Park .....	1,722 75	
14—	Ticket sales, Park .....	1,862 25	
15—	Ticket sales, Park .....	1,362 25	
	Merchants' books .....	569 85	
			\$10,973 60
	Pool privileges .....	\$7,628 55	
	Manure privileges .....	250 00	
	Pasturage .....	212 50	
	Art catalogues and Pavilion privileges .....	738 75	
	Programme privilege .....	325 00	
	Park privileges .....	2,826 00	
			\$11,980 80
	BILLS RECEIVABLE.		
Loeber .....			\$50 00
	BILLS PAYABLE.		
	M. V. Sparks, due October, 1895 .....	\$1,188 00	
	W. J. Irvine, due October, 1895 .....	1,219 26	
	Richards & Knox, due October, 1895 .....	1,159 89	
	Capital Gas Co., due October, 1895 .....	1,428 60	
	H. S. Crocker Co., due October, 1895 .....	538 60	
	California State Bank, due October, 1895 .....	248 85	
	W. K. Vanderslice & Co., due October, 1895 .....	659 49	
	Jos. Sims, due October, 1895 .....	543 88	
			\$6,986 57
	ENTRANCES DUE.		
	Lawrence Stock Farm, on "Thelma" .....	\$50 00	
	L. P. W. Quinby, on "Phalmont Boy" .....	50 00	
			\$100 00
	BANK.		
	Bank of D. O. Mills & Co., account loan .....		\$3,471 72
	INTEREST.		
	Received .....		\$14 80
			<u>\$86,518 00</u>

## DISBURSEMENTS.

1894.	ADVERTISING.	
Apr. 15—	Spirit of the Times .....	\$50 00
July 24—	California Turf .....	60 00
Sept. 15—	Spirit of the Times .....	50 00
Oct. 6—	Nevada Transcript .....	20 00
	Colusa Herald .....	10 00
	Chico Chronicle-Record .....	10 00
	Los Angeles Times .....	27 05
	Oroville Mercury .....	10 00
	Sacramento River News .....	5 00
	Winters Express .....	5 00
	Folsom Telegraph .....	8 00
	National Bulletin .....	10 00
	Truckee Republican .....	12 00
	Lodi Sentinel .....	7 50
	Placer Herald .....	14 00
	Chico Enterprise .....	5 00
	Colusa Sun .....	22 50
	Vacaville Reporter .....	7 50
	Galt Gazette .....	8 00
	Stockton Mail .....	20 00
	Stockton Record .....	8 00
	Red Bluff News .....	12 00
	Dixon Tribune .....	6 00
	Napa Register .....	15 00
	Modesto Herald .....	6 00
	Sonoma Democrat .....	18 00
	Petaluma Courier .....	12 50
	Amount carried forward .....	\$439 05

	Amount brought forward .....	\$439 05	
Oct. 6—	Placer News-Messenger .....	5 00	
	Marysville Democrat .....	15 00	
	San José Mercury .....	12 00	
	Sutter County Farmer .....	6 00	
	Gridley Herald .....	5 00	
	Woodland Mail .....	12 00	
	San José Record .....	12 00	
	Shasta County Democrat .....	8 00	
	California Turf .....	40 00	
	Marysville Appeal .....	12 50	
	Santa Cruz Surf .....	10 00	
	Oroville Register .....	5 00	
	Grass Valley Union .....	8 00	
	Salinas Journal .....	6 00	
	Twin City News .....	5 00	
	Stockton Independent .....	21 00	
	California Fruit Grower .....	20 00	
	Grass Valley Tidings .....	12 00	
	San Francisco News Letter .....	20 00	
	Pacific Rural Press .....	42 50	
	San Francisco Post .....	60 00	
	San Francisco Wasp .....	20 00	
	Oakland Tribune .....	20 00	
	San Francisco Call .....	111 60	
	San Francisco Chronicle .....	120 00	
	Breeder and Sportsman .....	329 00	
	San Francisco Examiner .....	94 50	
	San Francisco Bulletin .....	80 00	
	San Francisco Report .....	50 00	
	San Francisco Wave .....	18 00	
	Los Angeles Herald .....	28 00	
	Sacramento Bee .....	153 40	
	Sacramento Record-Union .....	253 00	
	Sacramento Sunday News .....	10 00	
Oct. 11—	Sacramento Sunday Leader .....	15 00	
	Nord California Herald, Sacramento .....	5 00	
Nov. 30—	Woodland Democrat .....	10 00	
	Amador Ledger .....	5 00	
Dec. 12—	California Turf .....	15 00	
	<b>EXPENSE.</b>		\$2,113 55
Feb. 28—	Sundries for month .....	\$44 38	
Mar. 31—	Sundries for month .....	35 25	
April 2—	E. W. Bruening, binding papers .....	22 85	
	18—F. Zitt, painting smokestack .....	20 00	
	21—A. H. Noe, hay for Park team .....	17 85	
	30—Sundries for month .....	28 85	
May 31—	Sundries for month .....	49 90	
June 1—	R. Murphy, hay for team .....	15 75	
	30—Sundries for month .....	26 85	
July 31—	Sundries for month .....	75 35	
Aug. 28—	C. Toomey, hay for team .....	41 60	
	31—Sundries for month .....	89 45	
Sept. 4—	Vc. de Cornely, Superintendent Foreign Department .....	500 00	
	5—Polish Commissioner, account pictures .....	150 00	
	10—Fair Publishing House, account printing .....	71 00	
	15—Charles H. Cassasa, music .....	3,000 00	
	17—Southern Pacific Company, freight and expressage .....	227 44	
	Thos. Lewis, excavating, Park .....	40 00	
	18—Moose & Hughes, painting and glazing .....	156 75	
	Midwinter Fair Exposition, turnstiles, etc. ....	445 00	
	M. V. Sparks, hay for Park .....	1,188 00	
	B. A. Johnson, Directors' room .....	432 55	
	J. H. Campbell, excavating .....	28 00	
	20—J. A. Smith, badges .....	20 00	
	B. M. Lelong, Horticultural Department .....	100 00	
	<b>PARK PAYROLL.</b>		\$6,826 82
Sept. 15—	G. B. Folger, Assistant Superintendent .....	\$80 00	
	C. J. Cox, Marshal .....	45 00	
	E. Skaggs, Assistant Marshal .....	36 00	
	L. W. Mahoney, Assistant Marshal .....	28 00	
	Ed. J. Kay, chief ticket clerk .....	45 00	
	Amount carried forward .....	\$234 00	\$8,940 37

	Amount brought forward .....	\$234 00	\$8,940 37
Sept. 15—	C. M. Farris, assistant ticket clerk .....	27 00	
	Ben Hancock, assistant ticket clerk .....	27 00	
	J. Hahn, assistant ticket clerk .....	27 00	
	T. J. Pilkington, assistant ticket clerk .....	27 00	
	George T. King, Twenty-third Street clerk .....	24 00	
	W. J. O'Brien, groom badge clerk .....	27 00	
	Geo. J. Berger, grand stand stairman .....	22 50	
	Fred Southworth, grand stand clerk .....	22 50	
	B. F. Mackall, grand stand stairman .....	22 50	
	R. Van Voorhies, grand stand stairman .....	22 50	
	F. C. Hyde, grand stand stairman .....	22 50	
	N. H. N. Brown, grand stand clerk .....	22 50	
	Ed. Howe, special stand stairman .....	22 50	
	Scott Hendricks, special stand clerk .....	22 50	
	H. S. Beals, special stand usher .....	18 00	
	Fred Hunter, Directors' stand usher .....	18 00	
	Wallace Renwick, F Street gate to track .....	18 00	
	R. W. Donaca, field exit gate .....	18 00	
	Henry T. Tucker, gate judges' stand .....	18 00	
	George Ritchie, quarter-stretch gate .....	18 00	
	Claude McGowan, quarter-stretch gate .....	18 00	
	W. Cunningham, quarter-stretch gate .....	18 00	
	F. Billingsley, press stand .....	18 00	
	E. Coffey, track entrance gate .....	15 00	
	Robert Goods, track entrance gate .....	18 00	
	Jerry Maley, track entrance gate .....	18 00	
	Simon Ash, Twenty-second Street gate .....	18 00	
	S. Gottlieb, weigher .....	35 00	
	M. C. Withington, forage clerk .....	42 00	
	C. V. Garrett, poultry watch .....	27 50	
	Carter Jackson, hay watch .....	37 50	
	Wm. Norman, hay watch .....	40 00	
	John Shellars, police .....	18 00	
	Patrick Heffernan, police .....	18 00	
	P. O'Connors, police .....	18 00	
	Jno. Gray, police .....	18 00	
	D. D. Swift, fire watch .....	33 00	
	F. P. Hendricks, fire watch .....	30 00	
	C. Peck, rear porter .....	22 00	
	Sam Cooper, scavenger .....	21 00	
	G. V. Churchman, police .....	15 00	
	C. W. Paine, police .....	22 50	
	J. A. Foote, Jr., police .....	10 50	
	C. Road, police .....	6 00	
	E. Pitt, police .....	6 00	
	R. M. Brown, starter .....	80 00	
	John Taylor, assistant starter .....	20 00	
	C. H. Merry, blackboard clerk .....	18 00	
	C. Whiting, judges' stand .....	22 50	
	M. Johnson, assistant starter .....	12 00	
	Wm. B. Godfrey, clerk of scales .....	50 00	
	L. C. Furguson, clerk of course .....	50 00	
	Joe Reed, position board .....	22 50	
	I. Miles, timer's flag .....	10 00	
	J. C. Denue, distance judge .....	30 00	
	C. W. Davis, judges' stand .....	18 00	
	Fred H. Chase, entry clerk .....	70 00	
	Patrick Heffernan, laborer .....	98 00	
	Wm. Foot, Jr., laborer .....	79 00	
	Wm. Foot, Sr., laborer .....	32 00	
	Jerry Maley, laborer .....	82 00	
	C. E. Fademwalt, laborer .....	16 00	
	B. F. Hancock, laborer .....	69 00	
	T. B. Oden, laborer .....	26 00	
	Luke Crow, laborer .....	1 50	
	Jos. Harvey, laborer .....	1 50	
	John Churchman, carpenter .....	159 00	
	Wm. Walters, team .....	91 50	
	J. S. Wharton, team .....	9 50	
	A. Grubbs, cleaning grand stand .....	80 00	
	R. May, inspector .....	36 00	
	H. N. Morse, detective service .....	276 60	
	G. A. Runyon, carpenter .....	24 00	
	J. H. Wiseman, pool clerk .....	27 00—	\$2,735 60
	Amount carried forward .....		\$11,675 97



Amount brought forward ..... \$11,675 97

PAVILION PAYROLL.

Sept. 15—J. A. Stanton, Superintendent Art Department.....	\$200 00
O. P. Dodge, Assistant Superintendent Pavilion.....	180 00
H. N. Morse, detective service.....	207 40
Felix Dunn, financial secretary.....	100 00
Richard May, inspector.....	8 00
Walter Trainor, chief ticket clerk.....	52 00
Fred Gilman, assistant ticket clerk.....	30 00
I. McMullen, assistant ticket clerk.....	25 00
C. H. Hubbard, entry clerk.....	60 00
Mrs. Clara Parsons, entry clerk.....	64 00
Miss M. Green, entry clerk.....	60 00
Mrs. Quigley, ladies' department.....	51 00
Mrs. D. Smith, ladies' room.....	24 00
John Dunn, ticket counter.....	16 50
S. G. Hess, doorkeeper and laborer.....	74 50
Jos. Herndon, laborer.....	53 00
H. F. Pierson, laborer.....	30 00
G. W. Dikeman, laborer.....	16 20
A. Horabin, laborer.....	6 00
M. Featherstone, laborer.....	12 00
T. Measure, laborer.....	13 00
J. T. Dammeron, laborer.....	12 00
Thos. Kearney, laborer.....	1 00
W. Gardner, laborer.....	32 00
M. Butler, laborer.....	6 00
M. Egan, laborer.....	8 00
Geo. Bronner, laborer.....	6 00
Wm. Connelly, laborer.....	5 00
Jos. Herndon, laborer.....	8 00
Jas. Kenny, laborer.....	28 25
H. Long, laborer.....	52 50
C. Kreige, laborer.....	20 00
Jos. Keys, laborer.....	47 00
F. T. Phillips, doorkeeper.....	40 00
C. R. Merriman, doorkeeper.....	38 00
Wm. Lowell, police.....	100 00
Wm. Conley, laborer.....	48 75
N. S. Bennett, laborer.....	49 00
J. L. Nichols, laborer.....	50 20
J. D. Marrow, laborer.....	47 50
J. M. Waite, laborer.....	47 50
J. Curran, laborer.....	44 50
J. H. Slaughter, laborer.....	47 00
D. H. Gates, laborer.....	47 00
C. E. Fordenwalt, laborer.....	10 00
Geo. Bronner, laborer.....	42 50
Hiram Clock, laborer.....	19 50
J. Early, laborer.....	36 50
Ed. Townsend, laborer.....	13 50
M. Egan, laborer.....	11 00
—, McGushen, laborer.....	2 00
G. T. Leitch, laborer.....	10 00
J. H. Slaughter, laborer.....	3 00
S. G. Hess, laborer, Art Department.....	17 00
J. Herndon, laborer, Art Department.....	17 00
D. H. Gates, laborer, Art Department.....	16 00
N. S. Bennett, laborer, Art Department.....	16 00
J. Lyman, laborer.....	3 00
Paul Memogoena, laborer.....	45 00
Geo. A. Runyon, carpenter.....	18 00
J. D. Wilkinson, watchman.....	26 25
Chas. Kreige, watchman.....	21 25

\$2,395 30

EXPENSE—(CONTINUED).

Sept. 30—Sundries for month.....	\$135 20
Oct. 4—C. Green, allowance as Superintendent Pavilion.....	300 00
G. W. Hancock, allowance as Superintendent Park.....	500 00
5—G. B. Blue & Son, repairs to track implements.....	219 49
6—Richards & Knox, lumber at Park.....	199 96
J. D. Lockhart, hay for team.....	12 10
Sacramento Lime Depot, repairs to brick wall.....	9 25

Amount carried forward ..... \$1,376 00 \$14,071 27

	Amount brought forward .....	\$1,376 00	\$14,071 27
Oct.	8—Pacific Electrical Works, bells at Park .....	19 95	
	James Popert, merchandise for Park .....	12 60	
	9—Capital Gas Co., lighting Pavilion, 1894 .....	1,423 60	
	W. F. Cutler, team and veterinary services .....	97 50	
	George Boyne, decorating .....	330 00	
	George Boyne, music stand, etc. ....	145 00	
	J. A. Lafferty, cartage Art Gallery .....	175 00	
	Standard Sewer Pipe Works, labor at Pavilion .....	15 00	
10—	J. A. McKerron, track programme numbers .....	18 75	
	L. Winter, electro cut .....	12 00	
	J. W. Wilson & Son, horse hire for office .....	40 00	
	Phoenix Milling Co., feed for exhibition stock, etc. ....	231 22	
	C. Suter, exit fittings .....	14 45	
	J. M. Neilson, shoeing track teams .....	45 00	
	D. Johnston & Co., printing .....	197 75	
	Western Union, telegrams for 1894 .....	47 53	
	W. P. Fuller & Co., repairs .....	11 23	
	A. S. Hopkins Co., merchandise .....	23 68	
	J. F. Hill, new harrow and fittings .....	34 70	
	Bassett & Minford, new door at Pavilion .....	14 60	
	F. D. Houghton, arm numbers .....	10 00	
	Sterling & Parker, bill posting .....	10 00	
	Wilson & Mitchell, ticket department .....	39 00	
	Jos. A. M. Martin, Park .....	12 00	
	Friend & Terry Co., turnstiles, etc. ....	73 96	
	Pacific Coast Advertising Co., bill posting .....	12 00	
	W. A. Caswell, bill posting .....	35 80	
	H. C. Chipman, track boards .....	33 25	
	Baker & Hamilton, merchandise for Park .....	63 35	
	Wells, Fargo & Co., expressage .....	70 95	
11—	Goodwin Bros., turf guide .....	12 00	
	George B. Stack, plumbing .....	42 78	
	J. H. Platt, sawdust .....	12 00	
	H. S. Crocker Co., lithographing and stationery .....	538 60	
16—	Kullman, Salz & Co., tanbark .....	60 00	
	Lightfoot & Ormsby, carpenter work .....	230 27	
19—	B. Wilson & Co., merchandise .....	108 53	
20—	Hook & Son, carpenter work .....	23 37	
23—	J. P. Callendine, painting at Park .....	23 00	
24—	J. H. Bryan, alfalfa hay .....	82 05	
27—	A. Baker & Co., painting annex roof .....	184 50	
	Wm. McLaughlin, cartage .....	137 62	
31—	Sundries for month .....	142 65	
Nov.	3—Wm. Curtis, use of team .....	49 50	
	5—Anna Yule, rent of lot .....	40 00	
	27—M. M. Estee, merchandise .....	60 00	
	30—Sundries for month .....	23 75	
Dec.	8—Tom Scott, plumbing .....	135 95	
	18—Miss M. Hinkson, filling diplomas .....	23 00	
	31—Sundries for month .....	48 21	
Jan.	24—Schaw, Ingram, Batcher & Co. ....	159 80	
	31—National Trotting Association, dues for 1894 .....	100 00	
	Sundries for month .....	66 00	
	Jos. Sims, straw for 1894 .....	543 88	
			\$7,498 33

## PREMIUMS—1894.

J. P. Callendine, account error .....	\$15 00
Ladies' tournament .....	185 00
Sacramento Packing Company—1893 .....	10 00
First Department .....	5,773 75
Second Department .....	418 00
Third Department .....	372 50
Fourth Department .....	465 50
Fifth Department .....	664 00
Sixth Department .....	2,847 00
Seventh Department .....	257 00
Eighth Department .....	802 00
Premiums paid to date .....	989 00
W. K. Vanderslice & Co., medals .....	659 49

\$13,458 24

## RACES—1894.

Race No. 1—The Occident Stake, stakes .....	\$920 00
2—Pacing purse, purse .....	1,000 00

Amount carried forward ..... \$1,920 00 \$35,027 84

Amount brought forward .....		\$1,920 00	\$35,027 84
Race No. 3—	Trotting purse, purse .....	1,000 00	
	Gentlemen's roadster race .....	200 00	
4—	Sunny Slope Stakes, stakes and added money .....	490 00	
5—	Selling Sweepstake, stakes and added money .....	690 00	
6—	Guaranteed purse, purse .....	500 00	
7—	Guaranteed purse, purse .....	500 00	
8—	Selling purse, entrances .....	350 00	
9—	Two-year-old Trotting Stake, stakes and added money .....	945 00	
10—	Trotting purse (2:16 class), purse .....	1,000 00	
11—	Trotting purse (2:27 class), purse .....	1,000 00	
12—	California Annual, stakes and added money .....	600 00	
13—	Capital City Stake, stakes and added money .....	845 00	
14—	Guaranteed purse, purse .....	500 00	
15—	Selling purse, purse .....	500 00	
16—	Maiden purse, purse and entrances .....	390 00	
17—	Three-year-old Trotting Stake, stakes and added money .....	1,650 00	
18—	Pacing purse, purse .....	1,000 00	
19—	Trotting purse, purse .....	1,000 00	
20—	Autumn Handicap, stakes and added money .....	720 00	
21—	Free purse, purse .....	250 00	
22—	Selling purse, purse .....	500 00	
23—	The Del Mar Stake, stakes and added money .....	580 00	
24—	Selling purse, purse .....	500 00	
25—	Two-year-old Pacing Stake, stakes and added money .....	545 00	
27—	Trotting purse, purse .....	1,000 00	
28—	Trotting purse, purse .....	800 00	
29—	Selling purse, purse .....	430 00	
30—	The Rosemeade Stake, stakes and added money .....	495 00	
31—	The Fall Stake, stakes and added money .....	720 00	
32—	Hurdle race, purse and entrances .....	310 00	
33—	Free purse, purse .....	250 00	
34—	Free-for-all trotting purse, purse .....	1,200 00	
35—	Pacing purse, purse .....	540 00	
36—	Three-year-old Pacing Stake, stakes .....	300 00	
37—	Three-year-old Futurity Stake, purse .....	5,000 00	
			\$29,220 00
INSURANCE.			
Mar. 15—	E. K. Alsip & Co. ....	\$16 50	
June 19—	Sun Insurance Co. ....	212 50	
Oct. 10—	W. P. Coleman .....	89 00	
	Jas. E. Mills .....	43 75	
	Frank Hickman .....	100 00	
	H. J. Goethe .....	52 50	
	Curtis & Bowley .....	43 80	
	Jas. N. Porter .....	60 00	
			\$618 05
SALARIES.			
	Edwin F. Smith, Secretary .....	\$2,400 00	
	S. P. Maslin, Assistant Secretary .....	200 00	
	Charles P. Herndon, janitor .....	900 00	
	Sherman B. Payne, stenographer .....	600 00	
	C. S. Patton, trackman .....	496 00	
	Hiram Clock, watchman .....	50 00	
	Thos. Kane, watchman .....	600 00	
	Wm. Curry, assistant trackman .....	90 00	
			\$5,336 00
FIXED EVENTS.			
	Occident Stake, 1894, account collections .....	\$820 00	
	Futurity Stake, 1894, account collections .....	690 00	
			\$1,510 00
INTEREST.			
June 29—	California State Bank, account interest .....	\$258 85	
July 22—	D. O. Mills & Co., account interest .....	602 35	
Sept. 18—	M. V. Sparks, account interest .....	90 36	
	Jos. Sims, account interest .....	50 45	
	D. O. Mills & Co., account interest .....	179 31	
Oct. 6—	W. F. Cutler, account interest .....	24 93	
	J. C. Brusie, account interest .....	50 00	
	Richards & Knox, account interest .....	124 00	
	Tom Scott, account interest .....	17 83	
Amount carried forward .....		\$1,398 08	\$71,711 89



	Amount brought forward .....	\$1,398 08	\$71,711 89
Oct.	8—Buckman & Carragher, account interest .....	101 50	
	10—H. S. Crocker Co., account interest .....	49 22	
	D. Johnston & Co., account interest .....	43 15	
	11—D. O. Mills & Co., account interest .....	70 66	
	Capital Gas Co., account interest .....	107 64	
	15—W. H. Layson, account interest .....	50 00	
	W. K. Vanderslice & Co., account interest .....	49 14	
Dec.	17—D. O. Mills & Co., account interest .....	294 39	
	22—D. O. Mills & Co., account interest .....	2 54	
	26—California State Bank, account interest .....	248 85	
	29—D. O. Mills & Co., account interest .....	110 23	
			\$2,525 40

## BILLS PAYABLE.

D. O. Mills & Co., account 1893 .....	\$243 74	
California State Bank, account 1893 .....	248 85	
M. V. Sparks, account 1893 .....	1,128 90	
Jos. Sims, account 1893 .....	630 62	
W. F. Cutler, account 1893 .....	311 70	
J. C. Brusie, account 1893 .....	625 00	
Richards & Knox, account 1893 .....	1,835 93	
Thos. Scott, account 1893 .....	222 90	
Buckman & Carragher, account 1893 .....	1,450 00	
H. S. Crocker Co., account 1893 .....	615 25	
D. Johnston & Co., account 1893 .....	539 40	
Capital Gas Co., account 1893 .....	1,537 80	
W. H. Layson, account 1893 .....	625 00	
W. K. Vanderslice & Co., account 1893 .....	614 26	
		\$10,629 35

## PROFIT AND LOSS.

Account error entrance due .....	\$88 00	
Sundry accounts .....	85 00	
		\$173 00

## ENTRANCES DUE.

Race No. 7—Lawrence Stables, on "Thelma" .....	\$10 00	
11—W. T. Bartlett, on "Frank B" .....	50 00	
11—R. O. Newman, on "Homeward" .....	50 00	
11—G. Pierano, on "Maria P" .....	50 00	
13—Lawrence Stables, on "Thelma" .....	15 00	
14—Lawrence Stables, on "Thelma" .....	10 00	
15—Stagg & Cooper, on "Ben Martin" .....	25 00	
16—G. W. Trahern, on "Sinbad" .....	10 00	
17—Myers & Myers, on "Red Nutling" .....	50 00	
18—R. O. Newman, on "Consolation" .....	50 00	
18—Witch Hazel Stock Farm, on "Kittitas Ranger" .....	50 00	
18—Louis Schaffer, on "Della S" .....	50 00	
19—L. P. W. Quinby, on "Phalmont Boy" .....	50 00	
19—Peter Brandow, on "Free Coinage" .....	50 00	
20—R. J. Havey, on "El Tirano" .....	10 00	
20—J. W. Donathan, on "Geo. Polhemus" .....	10 00	
22—H. P. Kofad, on "Lodi" .....	10 00	
23—J. W. Donathan, on "Warrago" .....	15 00	
23—Lawrence Stables, on "Thelma" .....	15 00	
28—T. C. Snider, on "Eva M" .....	40 00	
28—J. E. Corey, on "Lady Thornhill" .....	40 00	
29—A. Y. Stephenson, on "Faro" .....	10 00	
32—Stagg & Cooper, on "Garnatt" .....	10 00	
35—C. A. Durfee, on "Ketchum" .....	30 00	
35—D. L. Mini, on "Baywood" .....	30 00	
35—G. Lapham, on "Haviland" .....	30 00	
35—E. V. Spencer, on "Carrie S" .....	30 00	
9—Myers & Myers, on "Sir C" .....	25 00	
9—F. M. Shepler, on "Flam B" .....	10 00	
36—Geo. Cropsey, on "Eyraud" .....	25 00	
27—B. O. Van Bokkelen, on "Boodle" .....	75 00	
		\$935 00
Jan. 31, 1895—Cash balance .....		543 36
		\$86,518 00

## TRANSACTIONS OF STATE AGRICULTURAL SOCIETY.

## PARK AND PAVILION DAILY RECEIPTS.

	Pavilion.	Park.
Sept. 3—Ticket sales .....	\$165 00	\$50 00
4—Ticket sales .....	379 25	65 00
5—Ticket sales .....	374 00	105 00
6—Ticket sales .....	494 75	975 75
7—Ticket sales .....	406 25	698 25
8—Ticket sales .....	754 50	746 75
9—Ticket sales .....	229 25	-----
10—Ticket sales .....	597 75	929 75
11—Ticket sales .....	780 25	827 00
12—Ticket sales .....	1,038 75	1,059 00
13—Ticket sales .....	1,412 50	1,722 75
14—Ticket sales .....	1,317 50	1,862 25
15—Ticket sales .....	1,513 50	1,862 25
Merchants' books .....	569 85	569 85
	<u>\$10,033 10</u>	<u>\$10,973 60</u>
Privileges, programmes, etc. ....	-----	11,242 05
Art catalogues and Pavilion privileges .....	738 75	-----
	<u>\$10,771 85</u>	<u>\$22,215 65</u>

## PROFIT AND LOSS.

	Dr.	
Balance February 1, 1894 .....	\$19,470 27	
Advertising .....	2,113 55	
General expense account .....	19,456 05	
Salaries .....	5,336 00	
Insurance .....	618 05	
Races .....	12,037 50	
Premiums .....	13,458 24	
Interest .....	2,525 40	
Sundries charged off .....	173 00	
	<u>-----</u>	\$75,188 06
	Cr.	
Expense account, rebates .....	\$572 00	
Appropriation by State .....	20,000 00	
Appropriation by Sacramento City and County .....	1,000 00	
Sweepstakes in premiums .....	299 50	
Park and Pavilion receipts .....	32,987 50	
Interest collected .....	14 80	
Rent .....	650 00	
Liabilities February 1, 1895 .....	19,664 26	
	<u>-----</u>	\$75,188 06

## ANNUAL MEETING.

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ROOMS STATE BOARD OF AGRICULTURE, }  
SACRAMENTO, February 4, 1895. }

The annual meeting of the State Board of Agriculture was held this day. The following named Directors were present: Messrs. Green, Chase, Mathews, Wilson, Flickinger, Terry, Cox, Shippee, and President Boggs. The minutes of previous meeting were read and approved.

### USE OF ENGINE AND BOILERS.

Secretary of State Brown appeared before the Board and asked the coöperation of this Board in the establishment of an electric light plant in the State Pavilion, wherefrom may be furnished light for entire State property. He assured the Board that the use of engine would greatly assist him in arranging this plant, and that its use would in no way hamper the Board of Agriculture during the Annual Fair, and that the expense of lighting the Pavilion and furnishing power during the State exhibition would likewise be saved.

After discussion, it was ordered by the Board that the President and Secretary enter into a contract with the Secretary of State in compliance with request set forth, at the same time reserving such rights for the Board as are necessary.

### CITRUS FAIR.

The Citrus Fair in Southern California was located at Los Angeles, to be held under the auspices of the Chamber of Commerce. Directors Gird and Hardison were named as representatives of this Board at said exhibition.

### THE ANNUAL REPORT.

The annual report of the Board to the Governor, together with the Secretary's financial statement, was read, approved, and ordered transmitted to the Governor.

### RESOLUTIONS OF RESPECT.

The death of Mr. G. W. Hancock was reported to the Board, whereupon the following resolutions of respect were adopted, ordered spread upon the minutes, and a copy sent to the family:

WHEREAS, Since the last meeting of this Board, the all-wise Providence has chosen an honored member from our ranks. In the demise of G. W. Hancock we feel the loss to ourselves and the community of an upright and honorable man. We, members of the State Board of Agriculture, sadly miss the presence and counsel of this active and capable member—one always ready to accept a responsibility and to faithfully perform his duty. His removal has not only left a vacancy in this Board, but in the ranks of the public-spirited citizens of this State; ever faithful, courageous, and manly.



*Resolved*, That we deeply mourn the loss of a wise and efficient officer of this Board; that our heartfelt sympathy be extended to the bereaved members of his family, and our earnest prayer be that He who guides our future will extend a hovering hand over the bereaved home.

Mr. J. E. Terry, of Sacramento, presented his credentials as Mr. Hancock's successor on this Board.

#### ELECTION OF OFFICERS.

The selection of officers for the ensuing year being the next business in order, Director Green placed Mr. Chas. M. Chase in nomination for President. In naming this gentleman, Mr. Green referred to his long connection with the Society, and to the fact that he had never before been recognized in an official way by this Board. "Mr. Chase," said he, "has always been a most indefatigable worker for the Society's interest; always refusing recognition at the hands of the Board. Now that he has been a continuous member for sixteen years, I deem it most fitting that the members of the Board should insist upon Mr. Chase accepting this tender of office."

Director Cox, in seconding the nomination, acknowledged that Mr. Chase had always championed the candidacy of some other member for this position. "But," said he, "we know his worth, we know his capabilities, and took him unawares in naming him for the office, and I hope he will accept and perform the duties, as I know he can."

President Boggs stated that he deemed it his duty to say a few words on behalf of the gentleman named for the position of President. He was the most qualified and more entitled to it than any other member of the Board. He should not only second Mr. Chase's nomination, but would move that he be elected by acclamation. Whereupon, the election of Mr. Chase was made unanimous.

Upon accepting the honor conferred, Mr. Chase said it was with much reluctance that he had agreed to accept the position. It was not mentioned to him until a few moments prior to the meeting. While he appreciated the honor, he at the same time knew there were other members equally competent to discharge the duties, and he had hoped that the Board would have selected some other member to guide the Society for the coming year. He promised, however, that although he had been forced into the position, he would devote his attention and such ability as he might possess to the faithful performance of the duty imposed upon him.

The next business in order was the election of Superintendents of Park and Pavilion. Mr. J. E. Terry was chosen for the Park, and Christopher Green for the Pavilion.

#### STATE FAIR DATES.

The dates for the State Fair of 1895 were fixed for September 2d to 14th, inclusive, with the usual nine days' racing.

#### LEGISLATION.

Directors Mathews, Wilson, and Cox were named as a Committee on Legislation.

## ROAD CONVENTION.

Directors Boggs and Wilson were named as delegates to the State Road Convention, to be held in Sacramento this month.

## EXECUTIVE COMMITTEE.

The President named the following Executive Committee: Directors Cox, Shippee, Boggs, Mathews, Wilson, Terry, and Green.

After consideration of other business incidental to the exhibition, premiums, etc., for 1895, the Board adjourned to call of the Chair.

## PREMIUMS AWARDED—1894.

## FIRST DEPARTMENT—LIVE STOCK.

## HORSES.

Exhibit.	Exhibitor.	Award.
CLASS I—THOROUGHBRED HORSES.		
<i>Stallions.</i>		
Fellowcharm, best four years old and over.	Burns & Waterhouse, San Fran'co.	\$40 00
Almont, second best	W. F. Smith, Sacramento	20 00
The Mallard, best three years old	Burns & Waterhouse, San Fran'co.	15 00
Capt. Coster, best two years old	Dan McCarty, San Francisco	20 00
Fleetwood, second best	Oakland Stables, San Francisco	10 00
Bay stallion, best one year old	Burns & Waterhouse, San Fran'co.	15 00
Bay colt, by Martenhurst, best under one year	Burns & Waterhouse, San Fran'co.	10 00
Bay colt, by Three Cheers, second best	Mrs. W. M. Murry, Sacramento	5 00
<i>Mares.</i>		
Miss Pickwick, best four years old and over, with colt	Mrs. W. M. Murry, Sacramento	40 00
Elsie S, second best	Burns & Waterhouse, San Fran'co.	20 00
Jessie C, best four years old and over	Mrs. W. M. Murry, Sacramento	30 00
Isabella, second best	C. Halverson, Routiers	15 00
Wandering Nun, best three years old	La Siesta Ranch, Menlo Park	25 00
Queen of Scots, second best	W. J. Brown, Berkeley	12 50
Wheel of Fortune, best two years old	Wm. Fisher, San Francisco	15 00
Suwanee, second best	Mrs. W. M. Murry, Sacramento	7 50
Chestnut filly, by Take Notice, best one year old	Burns & Waterhouse, San Fran'co.	10 00
Roan filly, by San Simeon, second best	Mrs. W. M. Murry, Sacramento	5 00
Brown filly, by Loyalist, best under one year	C. Halverson, Routiers	5 00
<i>Families.</i>		
Fellowcharm, best thoroughbred sire and five colts	Burns & Waterhouse, San Fran'co.	75 00
Elsie S, best thoroughbred mare and two colts	Burns & Waterhouse, San Fran'co.	50 00
Eros, best sire, other than thoroughbred, and five colts	La Siesta Ranch, Menlo Park	75 00
Belle Mc, best mare, othan than thoroughbred, and four colts	W. O. Bowers, Sacramento	50 00
CLASS II—STANDARD TROTTERS.		
<i>Stallions.</i>		
Melvar, best four years old and over	B. E. Harris, San Francisco	40 00
Silas Skinner, second best	William McGraw, Santa Rosa	20 00
Roswood, best three years old	La Siesta Ranch, Menlo Park	30 00
Albert W, Jr., second best	H. S. Beals, Sacramento	15 00
Our Jack, best two years old	W. J. Irvine, Sacramento	20 00
Nelsoner, second best	La Siesta Ranch, Menlo Park	10 00
Abdine, best one year old	Mrs. J. P. Callendine, Sacramento	15 00
Royal Knight, second best	James McCaw, Sacramento	7 50
Wand, best under one year	La Siesta Ranch, Menlo Park	10 00
Stein, second best	La Siesta Ranch, Menlo Park	5 00
Fallacy, best gelding	H. W. Meek, San Lorenzo	40 00
La Grande, Jr., second best	G. B. Simpson, Chico	20 00



## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
<i>Mares.</i>		
Olita, best four years old and over, with colt.....	La Siesta Ranch, Menlo Park.....	\$40 00
Flossie, second best.....	J. Jorgensen, Sacramento.....	20 00
Wanda, best four years old and over.....	La Siesta Ranch, Menlo Park.....	30 00
Minnie B, second best.....	C. F. Bunch, San José.....	15 00
Soubrette, best three years old.....	La Siesta Ranch, Menlo Park.....	15 00
Algonita, best two years old.....	La Siesta Ranch, Menlo Park.....	20 00
Miss Easter Wilkes, second best.....	C. H. Gilman, Sacramento.....	10 00
Ruinda, best one year old.....	W. F. Smith, Sacramento.....	10 00
Lottie Kebir, second best.....	J. Jorgensen, Sacramento.....	5 00
Caressma, best under one year.....	La Siesta Ranch, Menlo Park.....	10 00
Brown filly, second best.....	J. Jorgensen, Sacramento.....	5 00
CLASS III—ROADSTERS.		
<i>Stallions.</i>		
Dexter D, best four years old and over.....	C. R. Dustin, Lodi.....	40 00
Alfred D, second best.....	E. C. Young, Lodi.....	20 00
J Mc, best three years old.....	T. P. Coats, Yuba City.....	30 00
Van Fleet, second best.....	A. C. Wiley, Sacramento.....	15 00
Bob, best two years old.....	G. B. Simpson, Chico.....	20 00
Scipio, second best.....	H. H. Wilson, Marysville.....	10 00
Will Rice, best one year old.....	Dr. C. E. Pinkham, Sacramento.....	7 50
Monarch, second best.....	B. E. Harris, San Francisco.....	5 00
Cosumes Boy, best gelding.....	C. H. Chandler, Sacramento.....	40 00
Charlie Marvin, second best.....	Wm. Morsehead, Sacramento.....	20 00
<i>Mares.</i>		
Lady Milton, best four years old and over, with colt.....	B. E. Harris, San Francisco.....	40 00
Flossie, second best.....	H. V. Traynham, Arbuckle.....	20 00
Bessie Nutwood, best four yrs. old and over.....	E. C. Young, Lodi.....	30 00
Ella W, second best.....	R. O. Newman, Visalia.....	15 00
Mollie, best three years old.....	J. Schmidt, Sacramento.....	30 00
Neta, second best.....	Mrs. C. Walsh, Sacramento.....	15 00
Venus, best one year old.....	H. V. Traynham, Arbuckle.....	10 00
Watura, second best.....	B. E. Harris, San Francisco.....	5 00
Olivette, best under one year.....	Thos. Waite, Perkins.....	10 00
Gladys, second best.....	H. V. Traynham, Arbuckle.....	5 00
CLASS IV—COACH HORSES.		
<i>Stallions.</i>		
Novelty, best four years old and over.....	J. P. Whitaker, Galt.....	40 00
Bayfield, second best.....	H. H. Wilson, Marysville.....	20 00
Captain, best gelding.....	A. B. McRae, Roseville.....	40 00
Prince, second best.....	H. H. Wilson, Marysville.....	15 00
<i>Mares.</i>		
Black Daisy, best four years old and over.....	H. H. Wilson, Marysville.....	30 00
Maud, second best.....	A. B. McRae, Roseville.....	15 00
Annie, best three years old.....	H. H. Wilson, Marysville.....	30 00
Meta, second best.....	Wm. McIntosh, Roseville.....	15 00
Kit, best two years old.....	H. H. Wilson, Marysville.....	20 00
Lillian, second best.....	Wm. McIntosh, Roseville.....	10 00
CLASS VI—ROADSTER TEAMS.		
Joe D and Luke, best.....	F. C. Lusk, Chico.....	50 00
Honesty and Glide, second best.....	A. J. Wilson, Sacramento.....	25 00
CLASS VII—NORMANS AND PERCHERONS.		
<i>Stallions.</i>		
Prince, best four years old and over.....	Jos. Melvin, Davisville.....	40 00
General, second best.....	Wm. McIntosh, Roseville.....	20 00
French Monarch, best three years old.....	F. W. Midgley, Ione.....	15 00

## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
<i>Mares.</i>		
Babe, best four years old and over with colt.	F. Bullard & Son, Woodland	\$40 00
Topsy, second best	H. H. Wilson, Marysville	20 00
Mollie, best four years old and over	F. W. Midgley, Ione	30 00
Babe, second best	A. B. McRae, Roseville	15 00
Lizzie, best three years old	H. H. Wilson, Marysville	25 00
Topsy, second best	Wm. McIntosh, Roseville	12 50
Sallie, best two years old	H. H. Wilson, Marysville	15 00
Daisy, second best	Wm. McIntosh, Roseville	7 50
Topsy, best under one year	F. Bullard & Son, Woodland	5 00
CLASS VIII—SUFFOLK PUNCH.		
<i>Mares.</i>		
Lucy, best four years old and over with colt.	H. S. Modison, Sacramento	40 00
Sallie, second best	H. H. Wilson, Marysville	20 00
Maud, best four years old and over	Wm. McIntosh, Roseville	30 00
Belle, second best	H. H. Wilson, Marysville	15 00
CLASS IX—CLYDESDALES.		
<i>Stallions.</i>		
Clyde, best one year old	F. W. Midgley, Ione	15 00
King, best under one year	H. H. Wilson, Marysville	10 00
Prince, second best	H. S. Modison, Sacramento	5 00
<i>Mares.</i>		
Daisy, best four years old and over, with colt	H. H. Wilson, Marysville	40 00
Lucy, second best	H. S. Modison, Sacramento	20 00
Minnie, best four years old	A. B. McRae, Roseville	30 00
Flora, second best	H. H. Wilson, Marysville	15 00
Susie, best three years old	H. S. Modison, Sacramento	25 00
Bessie, second best	H. H. Wilson, Marysville	12 50
Dolly, best two years old	H. S. Modison, Sacramento	15 00
Nellie, second best	H. H. Wilson, Marysville	7 50
CLASS X—ENGLISH SHIRES.		
<i>Stallions.</i>		
Nailstone Paddock, best four years old	J. P. Whitaker, Galt	40 00
Nailstone Peer, second best	J. P. Whitaker, Galt	20 00
Sonoma Chief, best three years old	J. I. Parsons, Santa Rosa	15 00
<i>Mares.</i>		
Langtry, best four years old and over, with colt	J. I. Parsons, Santa Rosa	40 00
Fanny, second best	H. H. Wilson, Marysville	20 00
Princess, best four years old	J. I. Parsons, Santa Rosa	30 00
Susie, second best	H. S. Modison, Sacramento	15 00
Bay filly, by Lothair IV, best under one year	J. I. Parsons, Santa Rosa	5 00
WALKING MATCH.		
General, best	Wm. McIntosh, Roseville	30 00
Lothair IV, second best	J. I. Parsons, Santa Rosa	15 00
CLASS XI—SADDLE HORSES.		
Eugene, best	B. E. Harris, San Francisco	20 00
Billy W, second best	Mrs. M. E. Ward, Oakland	10 00
CLASS XII—JACKS, JENNIES, ETC.		
<i>Jacks.</i>		
Prince, second best four years old and over	C. Gruwald, Pleasant Grove	20 00
Black Bart, best three years old	W. B. Brown, Suisun	15 00
King Fisher, best two years old	W. B. Brown, Suisun	10 00

## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
<i>Jennies.</i>		
Juno, best four years old and over.....	H. Klemp, Marysville.....	\$30 00
Lucy, second best.....	W. B. Brown, Suisun.....	15 00
Sue, best one year old.....	H. Klemp, Marysville.....	10 00
<i>Mules.</i>		
Beck and Lize, best three-year-old span...	H. Klemp, Marysville.....	20 00
Kit and Jennie, second best.....	H. H. Wilson, Marysville.....	10 00
Queen, best two years old.....	H. Klemp, Marysville.....	15 00
Black, best one year old.....	H. Klemp, Marysville.....	10 00
Best suckling.....	H. H. Wilson, Marysville.....	5 00

## CATTLE.

Exhibit.	Exhibitor.	Award.
THOROUGHbred CLASS.		
Red Dolly 35th, best thoroughbred barren heifer, three years old and over.....	S. Tryon, Sacramento.....	\$20 00
Linda Belle 2d, second best.....	P. H. Murphy, Perkins.....	10 00
Star, best graded steer, two years old.....	S. Tryon, Sacramento.....	10 00
CLASS I—DURHAMS.		
<i>Bulls.</i>		
10th Lord of Aberdeen, best three years old and over.....	A. Heilbron & Bro., Sacramento..	30 00
Baron Fidget 2d, second best.....	Baden Live Stock Co., Baden.....	15 00
Moulder, best two years old.....	A. Heilbron & Bro., Sacramento..	20 00
Reward, second best.....	A. Heilbron & Bro., Sacramento..	10 00
Alert, best one year old.....	A. Heilbron & Bro., Sacramento..	15 00
Ruby King, second best.....	Baden Live Stock Co., Baden.....	7 50
Townley, best calf.....	Baden Live Stock Co., Baden.....	10 00
Billy Beaumont, second best.....	P. H. Murphy, Perkins.....	5 00
<i>Cows.</i>		
15th Duchess of Wild Flower, best three years old and over.....	A. Heilbron & Bro., Sacramento..	30 00
Fidget 15th, second best.....	Baden Live Stock Co., Baden.....	15 00
Rose Ann, best two years old.....	P. H. Murphy, Perkins.....	20 00
12th Duchess of Wild Flower, second best.	A. Heilbron & Bro., Sacramento..	10 00
Mignonette, best one year old.....	A. Heilbron & Bro., Sacramento..	15 00
Chilton's Baroness 5th, second best.....	Baden Live Stock Co., Baden.....	7 50
Water Cloud, best heifer calf.....	A. Heilbron & Bro., Sacramento..	10 00
Chilton's Flora, second best.....	Baden Live Stock Co., Baden.....	5 00
<i>Herd.</i>		
Best over two years.....	A. Heilbron & Bro., Sacramento..	40 00
Best under two years.....	A. Heilbron & Bro., Sacramento..	20 00
<i>Sweepstakes.</i>		
10th Lord of Aberdeen, best bull any age..	A. Heilbron & Bro., Sacramento..	48 00
Water Queen, best cow any age.....	A. Heilbron & Bro., Sacramento..	56 00
CLASS III—HEREFORDS.		
<i>Bulls.</i>		
Howard, best three years old and over.....	A. Heilbron & Bro., Sacramento..	15 00
Bill Nye, best two years old.....	A. Heilbron & Bro., Sacramento..	10 00
Mikado, best calf.....	A. Heilbron & Bro., Sacramento..	5 00
<i>Cows.</i>		
Lady Cora, best three years old.....	A. Heilbron & Bro., Sacramento..	15 00
The Bride, best two years old.....	A. Heilbron & Bro., Sacramento..	10 00
Springtime, best one year old.....	A. Heilbron & Bro., Sacramento..	7 50
Crescent, best heifer calf.....	A. Heilbron & Bro., Sacramento..	5 00



## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
<i>Herds.</i>		
Pirate and four cows, best herd two years old and over .....	A. Heilbron & Bro., Sacramento.....	\$20 00
Mikado and four cows, best herd under two years old .....	A. Heilbron & Bro., Sacramento.....	10 00
<i>Sweepstakes.</i>		
Pirate, best bull any age .....	A. Heilbron & Bro., Sacramento.....	24 00
Lady Cora, best cow any age .....	A. Heilbron & Bro., Sacramento.....	24 00
CLASS IV—POLLED ANGUS OR GALLOWAYS.		
<i>Bulls.</i>		
Duke of Yolo 2d, best two years old .....	W. B. Gibson, Woodland .....	10 00
Dan of Dee, best one year old .....	Dr. G. M. Dixon, Sacramento .....	15 00
Little Wonder 2d, second best .....	W. B. Gibson, Woodland .....	7 50
Pancho, best calf .....	Dr. G. M. Dixon, Sacramento .....	5 00
<i>Cows.</i>		
Eva, best three years old and over .....	Dr. G. M. Dixon, Sacramento .....	30 00
Nevada, second best .....	W. B. Gibson, Woodland .....	15 00
Annie Venie 2d, best two years old .....	W. B. Gibson, Woodland .....	20 00
Ruby C, second best .....	Dr. G. M. Dixon, Sacramento .....	10 00
Dinah of Argonaut, best one year old .....	Dr. G. M. Dixon, Sacramento .....	15 00
State Fair, second best .....	W. B. Gibson, Woodland .....	7 50
Eva of Argonaut 2d, best heifer calf .....	Dr. G. M. Dixon, Sacramento .....	10 00
Laura French 2d, second best .....	W. B. Gibson, Woodland .....	5 00
<i>Herds.</i>		
Best herd over two years .....	Dr. G. M. Dixon, Sacramento .....	40 00
Best herd under two years .....	W. B. Gibson, Woodland .....	20 00
<i>Sweepstakes.</i>		
Duke of Yolo 2d, best bull any age .....	W. B. Gibson, Woodland .....	52 00
Effie B, best cow any age .....	Dr. G. M. Dixon, Sacramento .....	56 00
CLASS VI—HOLSTEINS.		
<i>Bulls.</i>		
Clothilde 5th's Clothilde, best three years old and over .....	F. H. Burke, Menlo Park .....	30 00
Fantje's King Aaggie, second best .....	F. H. Burke, Menlo Park .....	15 00
K. A. C. Leader, best two years old .....	F. H. Burke, Menlo Park .....	20 00
Duke of Dominita, second best .....	T. B. Hall, Sacramento .....	10 00
Linconia 2d's Ranger, best one year old .....	T. B. Hall, Sacramento .....	15 00
Yearling bull, second best .....	F. H. Burke, Menlo Park .....	7 50
Best bull calf .....	T. B. Hall, Sacramento .....	10 00
Second best .....	T. B. Hall, Sacramento .....	5 00
<i>Cows.</i>		
Korvortje 3d, best three years old and over .....	F. H. Burke, Menlo Park .....	30 00
Rebecca Egmonde 3d, second best .....	F. H. Burke, Menlo Park .....	15 00
Butter Witch, best two years old .....	F. H. Burke, Menlo Park .....	20 00
Tray's Jewel, second best .....	F. H. Burke, Menlo Park .....	10 00
Hight Utah 2d, best one year old .....	F. H. Burke, Menlo Park .....	15 00
Pantje of San Mateo, second best .....	F. H. Burke, Menlo Park .....	7 50
Best heifer calf .....	T. B. Hall, Sacramento .....	10 00
Second best .....	F. H. Burke, Menlo Park .....	5 00
<i>Herds.</i>		
Best old herd .....	F. H. Burke, Menlo Park .....	40 00
Best young herd .....	F. H. Burke, Menlo Park .....	20 00
<i>Sweepstakes.</i>		
Clothilde 5th's Clothilde, best bull any age .....	F. H. Burke, Menlo Park .....	48 00
Dominita of Bonnie Brae, best cow any age .....	T. B. Hall, Sacramento .....	48 00

## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
CLASS VII—JERSEYS.		
<i>Bulls.</i>		
Earl of Y. B., best three years old and over.....	H. Pierce, San Francisco.....	\$30 00
Oakland Chief, second best.....	Thos. Ward, Oakland.....	15 00
Mack of Y. B., best two years old.....	H. Pierce, San Francisco.....	20 00
Eugene Crouch, second best.....	P. J. Shields, Sacramento.....	10 00
December of Y. B., best one year old.....	Henry Pierce, San Francisco.....	15 00
Jack Mercury, second best.....	L. F. Eaton, Florin.....	7 50
Lee Brown, best calf.....	P. J. Shields, Sacramento.....	10 00
Gilroy, second best.....	Thos. Ward, Oakland.....	5 00
<i>Cows.</i>		
Lady Maud, best three years old and over.....	Thos. Ward, Oakland.....	30 00
Valentine of Y. B., second best.....	H. Pierce, San Francisco.....	15 00
Venus of Y. B., best two years old.....	H. Pierce, San Francisco.....	20 00
Lucy Belle, second best.....	Thos. Ward, Oakland.....	10 00
Theda E., best one year old.....	L. F. Eaton, Florin.....	15 00
Admission of Y. B., second best.....	H. Pierce, San Francisco.....	7 50
Riverside Belle, best heifer calf.....	P. J. Shields, Sacramento.....	10 00
Oreola of Y. B., second best.....	H. Pierce, San Francisco.....	5 00
<i>Herds.</i>		
Best old herd.....	Henry Pierce, San Francisco.....	40 00
Best young herd.....	Henry Pierce, San Francisco.....	20 00
<i>Sweepstakes.</i>		
El Toro of Y. B., best bull of any age.....	H. Pierce, San Francisco.....	48 00
Olga of Y. B., best cow of any age.....	H. Pierce, San Francisco.....	48 00
CLASS VIII—HERD SWEEPSTAKE.		
<i>Beef Cattle.</i>		
Best herd, consisting of one bull and four females.....	A. Heilbron & Bro., Sacramento..	105 00
<i>Milk Cattle.</i>		
Best herd, consisting of one bull and four females.....	Henry Pierce, San Francisco.....	97 50
CLASS IX—DAIRY PRIZES.*		
Lady Woods, best cow three years old making most butter.....	J. M. Woods, Sacramento.....	40 00
Baden Ruby 4th, second best.....	Baden Live Stock Co., Baden.....	25 00
CLASS X—GRAND SWEEPSTAKES—BEEF BREEDS.		
<i>Bulls.</i>		
Brilliant, best three years old.....	Dr. G. M. Dixon, Sacramento.....	42 00
Duke of Yolo 2d, second best.....	W. B. Gibson, Woodland.....	26 00
Alert, best one year old.....	A. Heilbron & Bro., Sacramento.....	19 50
Townley Prince, best calf.....	Baden Live Stock Co., Baden.....	13 00
<i>Cows.</i>		
Duchess of Wildflower, best three years old.....	A. Heilbron & Bro., Sacramento.....	45 00
Effie of B, best two years old.....	Dr. G. M. Dixon, Sacramento.....	26 00
State Fair, best one year old.....	W. B. Gibson, Woodland.....	22 50
Trickey, best heifer calf.....	A. Heilbron & Bro., Sacramento.....	13 00
MILK BREEDS.		
<i>Bulls.</i>		
El Toro of Y. B., best three years old.....	Henry Pierce, San Francisco.....	42 00
Mark of Y. B., best two years old.....	Henry Pierce, San Francisco.....	26 00
December of Y. B., best one year old.....	Henry Pierce, San Francisco.....	18 00
Best bull calf.....	T. B. Hall, Sacramento.....	12 00

\* See page 89, for detailed report of milk test.

## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
<i>Cows.</i>		
Korvortje 2d, best three years old .....	F. H. Burke, Menlo Park .....	\$42 00
Venus of Y. B., best two years old .....	Henry Pierce, San Francisco .....	26 00
Admission of Y. B., best one year old .....	Henry Pierce, San Francisco .....	18 00
Oreola of Y. B., best heifer calf .....	Henry Pierce, San Francisco .....	15 00

## SHEEP.

Exhibit.	Exhibitor.	Award.
CLASS I—SPANISH MERINO.		
J. T. Close, best ram two years old and over.	F. Bullard & Son, Woodland .....	\$15 00
Little Giant, best ram one year old and under two .....	F. Bullard & Son, Woodland .....	11 25
Best three ram lambs .....	F. Bullard & Son, Woodland .....	11 25
Best pen five ewes, two years old .....	F. Bullard & Son, Woodland .....	11 25
Best pen five ewes, under two years .....	F. Bullard & Son, Woodland .....	11 25
Best pen five ewe lambs .....	F. Bullard & Son, Woodland .....	11 25
Best ram and five of his lambs .....	F. Bullard & Son, Woodland .....	15 00
CLASS II—FRENCH MERINO.		
Napoleon 1st, best ram two years old and over .....	J. H. Glide, Sacramento .....	15 00
Napoleon 2d, best ram under two years .....	J. H. Glide, Sacramento .....	11 25
Best three ram lambs .....	J. H. Glide, Sacramento .....	11 25
Best pen five ewes, two years old .....	J. H. Glide, Sacramento .....	11 25
Best pen five ewes, under two years .....	J. H. Glide, Sacramento .....	11 25
Best pen five ewe lambs .....	J. H. Glide, Sacramento .....	11 25
Napoleon 1st, best ram and five of his lambs .....	J. H. Glide, Sacramento .....	15 00
CLASS III—SOUTHDOWN.		
San Ramon, best ram, any age .....	Geo. Bement & Son, East Oakland .....	10 00
Best pen of five ewes, any age .....	Geo. Bement & Son, East Oakland .....	10 00
Harry, best ram and five lambs .....	Geo. Bement & Son, East Oakland .....	10 00
CLASS V—SHROPSHIRE.		
Yolo Chief 9th, best ram, any age .....	J. H. Glide, Sacramento .....	10 00
Best pen of five ewes, any age .....	J. H. Glide, Sacramento .....	10 00
Yolo Chief, best ram and five lambs .....	J. H. Glide, Sacramento .....	10 00
Best three ram lambs .....	J. H. Glide, Sacramento .....	11 25
Best five ewe lambs .....	J. H. Glide, Sacramento .....	11 25
SWEEPSTAKES.		
J. T. Close, best Merino ram and five lambs .....	F. Bullard & Son, Woodland .....	15 00
Yolo Chief, best ram other than Merino and five lambs .....	J. H. Glide, Sacramento .....	15 00
PERSIAN SHEEP—(SPECIAL.)		
Best ram, two years old .....	C. P. Bailey, San José .....	10 00
Best three ram lambs .....	C. P. Bailey, San José .....	11 25

## ANGORA GOATS.

Exhibit.	Exhibitor.	Award.
THOROUGHBREDS.		
Burt, best buck two years old and over .....	C. P. Bailey, San José .....	\$20 00
Ramon, second best .....	C. P. Bailey, San José .....	10 00
Belmont, best under two years .....	C. E. Bailey, San José .....	15 00
Menlo, second best .....	C. P. Bailey, San José .....	7 50
Best pen three does two years old .....	C. E. Bailey, San José .....	20 00
Second best .....	C. P. Bailey, San José .....	10 00
Best pen three does under two years .....	C. P. Bailey, San José .....	15 00
Second best .....	C. E. Bailey, San José .....	7 50
Best herd of ten, any age or breed .....	C. P. Bailey, San José .....	25 00
Second best .....	C. E. Bailey, San José .....	10 00



## SWINE.

Exhibit.	Exhibitor.	Award.
<b>CLASS I—BERKSHIRE.</b>		
<i>Boars.</i>		
Pedro, best two years old and over .....	Thos. Waite, Perkins .....	\$20 00
Goldsmith, second best .....	Sessions & Co., Los Angeles .....	10 00
Joe, best one year old and under two .....	Thos. Waite, Perkins .....	7 50
Reformer, best six months and under one year .....	P. H. Murphy, Perkins .....	10 00
Pansy Duke, second best .....	Sessions & Co., Los Angeles .....	5 00
<i>Sows.</i>		
Cherry Blossom Sallie 3d, best two years old and over .....	Sessions & Co., Los Angeles .....	20 00
Beauty, second best .....	Sessions & Co., Los Angeles .....	10 00
Lynwood Olive, best one year old and under two .....	Sessions & Co., Los Angeles .....	15 00
Queen Vic, second best .....	P. H. Murphy, Perkins .....	7 50
Cherry Blossom 30th, best six months and under one year .....	Sessions & Co., Los Angeles .....	10 00
Cherry Blossom 29th, second best .....	Sessions & Co., Los Angeles .....	5 00
Queen, best sow and six pigs under three months .....	P. H. Murphy, Perkins .....	20 00
Lady Smith and six pigs, second best .....	Thos. Waite, Perkins .....	10 00
Best pair pigs under six months .....	Thos. Waite, Perkins .....	15 00
Second best .....	H. H. Wilson, Marysville .....	7 50
<i>Sweepstakes.</i>		
Pedro, best boar any age .....	Thos. Waite, Perkins .....	24 00
Cherry Blossom Sallie 3d, best sow any age .....	Sessions & Co., Los Angeles .....	24 00
Best pen six pigs under six months .....	Sessions & Co., Los Angeles .....	24 00
Prince 2d, two sows (Queen, Queen Vic), and six pigs, best family .....	P. H. Murphy, Perkins .....	24 00
<b>CLASS II—ESSEX.</b>		
<i>Boars.</i>		
Llewellyn, best one year old and under two .....	Geo. Bement & Son, East Oakland .....	15 00
Black Compton, second best .....	L. F. Eaton, Florin .....	7 50
Black Ben, best six months old and under one year .....	L. F. Eaton, Florin .....	10 00
King, second best .....	Geo. Bement & Son, East Oakland .....	5 00
<i>Sows.</i>		
California Duchess, best two years old and over .....	Geo. Bement & Son, East Oakland .....	10 00
Black Avis, best one year old and under two .....	L. F. Eaton, Florin .....	15 00
Eaton Girl, second best .....	Geo. Bement & Son, East Oakland .....	7 50
Queen, best six months and under one year .....	Geo. Bement & Son, East Oakland .....	10 00
Black Jane, second best .....	L. F. Eaton, Florin .....	5 00
Duchess, best sow and six pigs .....	Geo. Bement & Son, East Oakland .....	10 00
Best pair of pigs under six months .....	L. F. Eaton, Florin .....	15 00
Second best .....	Geo. Bement & Son, East Oakland .....	7 50
<i>Sweepstakes.</i>		
Llewellyn, best boar any age .....	Geo. Bement & Son, East Oakland .....	24 00
California Duchess, best sow any age .....	Geo. Bement & Son, East Oakland .....	24 00
Best pen of six pigs under six months .....	Geo. Bement & Son, East Oakland .....	12 00
Llewellyn, two sows and six pigs, best family .....	Geo. Bement & Son, East Oakland .....	12 00
<b>CLASS III—POLAND-CHINA.</b>		
<i>Boars.</i>		
California Wilkes, best two years old and over .....	Jos. Melvin, Davisville .....	10 00
Ovation, best one year old and under two .....	P. H. Murphy, Perkins .....	15 00
Tecumseh 14th, second best .....	Jos. Melvin, Davisville .....	7 50
Tecumseh 15th, best six months old and under one year .....	Jos. Melvin, Davisville .....	10 00
Sonoma Boy, second best .....	Geo. Bement & Son, East Oakland .....	5 00

## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
<i>Sows.</i>		
Western Belle, best two years old and over.....	P. H. Murphy, Perkins.....	\$20 00
Belle of Richwood, second best.....	P. H. Murphy, Perkins.....	10 00
Lilac, best one year old and under two.....	Thos. Waite, Perkins.....	15 00
California Best, second best.....	Jos. Melvin, Davisville.....	7 50
Belle of Richwood 2d, best six months old and under one year.....	P. H. Murphy, Perkins.....	10 00
Belle of Richwood 3d, second best.....	P. H. Murphy, Perkins.....	5 00
Lady Wilkes, best sow and six pigs.....	Jos. Melvin, Davisville.....	20 00
California Best, second best.....	P. H. Murphy, Perkins.....	10 00
Best pair of pigs under six months.....	Jos. Melvin, Davisville.....	15 00
Second best.....	P. H. Murphy, Perkins.....	7 50
<i>Sweepstakes.</i>		
Ovation, best boar any age.....	P. H. Murphy, Perkins.....	24 00
Western Belle, best sow any age.....	P. H. Murphy, Perkins.....	12 00
Best pen six pigs under six months.....	Jos. Melvin, Davisville.....	24 00
California Wilkes, two sows (California Bess, Lady Wilkes), and six pigs, best family.....	Jos. Melvin, Davisville.....	24 00

## POULTRY.

Exhibit.	Exhibitor.	Award.
<b>LIGHT BRAHMAS.</b>		
Best cock and hen.....	Geo. Groves, Sacramento.....	\$3 00
Best cockerel and pullet.....	Mrs. F. H. Snow, San José.....	3 00
Best breeding pen.....	Geo. Groves, Sacramento.....	10 00
<b>DARK BRAHMAS.</b>		
Best cock and hen.....	Mrs. E. H. Freeman, Santa Clara.....	3 00
Best cockerel and pullet.....	Mrs. E. H. Freeman, Santa Clara.....	3 00
Best breeding pen.....	Mrs. E. H. Freeman, Santa Clara.....	5 00
<b>BUFF COCHINS.</b>		
Best cockerel and pullet.....	Geo. Bement & Son, East Oakland.....	3 00
<b>PARTRIDGE COCHINS.</b>		
Best cock and hen.....	Mrs. E. H. Freeman, Santa Clara.....	3 00
Best cockerel and pullet.....	Geo. Groves, Sacramento.....	3 00
Best breeding pen.....	Mrs. E. H. Freeman, Santa Clara.....	10 00
<b>PLYMOUTH ROCKS.</b>		
Best cock and hen.....	S. P. Roller, Red Bluff.....	3 00
Best cockerel and pullet.....	Mrs. E. H. Freeman, Santa Clara.....	3 00
Best breeding pen.....	Thos. Waite, Perkins.....	10 00
<b>BLACK LEGHORNS.</b>		
Best cock and hen.....	French Bros., Stockton.....	3 00
Best cockerel and pullet.....	French Bros., Stockton.....	3 00
Best breeding pen.....	French Bros., Stockton.....	5 00
<b>BROWN LEGHORNS.</b>		
Best cock and hen.....	French Bros., Stockton.....	3 00
Best cockerel and pullet.....	Thos. Waite, Perkins.....	3 00
Best breeding pen.....	Mrs. E. H. Freeman, Santa Clara.....	10 00
<b>ANDALUSIANS.</b>		
Best cock and hen.....	French Bros., Stockton.....	3 00
Best cockerel and pullet.....	French Bros., Stockton.....	3 00
Best breeding pen.....	French Bros., Stockton.....	5 00
<b>WHITE LEGHORNS.</b>		
Best cock and hen.....	Mrs. E. H. Freeman, Santa Clara.....	3 00
Best cockerel and pullet.....	Mrs. E. H. Freeman, Santa Clara.....	3 00
Best breeding pen.....	French Bros., Stockton.....	10 00

## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
WHITE-FACED BLACK SPANISH.		
Best cock and hen .....	G. Bement & Son, East Oakland ..	\$3 00
Best cockerel and pullet .....	G. Bement & Son, East Oakland ..	3 00
Best breeding pen .....	G. Bement & Son, East Oakland ..	10 00
HOUDANS.		
Best cock and hen .....	G. Bement & Son, East Oakland ..	3 00
Best cockerel and pullet .....	G. Bement & Son, East Oakland ..	3 00
Best breeding pen .....	G. Bement & Son, East Oakland ..	5 00
SILVER-SPANGLED HAMBURGS.		
Best cock and hen .....	G. Bement & Son, East Oakland ..	3 00
Best cockerel and pullet .....	Mrs. F. H. Snow, San José .....	3 00
Best breeding pen .....	French Bros., Stockton .....	10 00
WYANDOTTES.		
Best cock and hen .....	C. W. Eldred, Sacramento .....	3 00
Best cockerel and pullet .....	Mrs. J. P. Callendine, Sacramento ..	3 00
Best breeding pen .....	Mrs. E. H. Freeman, Santa Clara ..	10 00
WHITE MINORCAS.		
Best cock and hen .....	French Bros., Stockton .....	3 00
Best cockerel and pullet .....	French Bros., Stockton .....	3 00
Best breeding pen .....	French Bros., Stockton .....	5 00
BLACK MINORCAS.		
Best cock and hen .....	French Bros., Stockton .....	3 00
Best cockerel and pullet .....	French Bros., Stockton .....	3 00
Best breeding pen .....	S. P. Roller, Red Bluff .....	10 00
PEKIN BANTAMS.		
Best cock and hen .....	Mrs. E. H. Freeman, Santa Clara ..	3 00
Best breeding pen .....	Mrs. E. H. Freeman, Santa Clara ..	5 00
SEABRIGHT BANTAMS.		
Best cock and hen .....	Mrs. E. H. Freeman, Santa Clara ..	3 00
Best breeding pen .....	Mrs. E. H. Freeman, Santa Clara ..	10 00
BLACK-BREASTED RED GAME BANTAMS.		
Best cock and hen .....	Mrs. F. H. Snow, San José .....	3 00
BRONZE TURKEYS.		
Best gobbler and hen .....	Thos. Waite, Perkins .....	10 00
Second best .....	French Bros., Stockton .....	5 00
NARRAGANSETT TURKEYS.		
Best gobbler and hen .....	French Bros., Stockton .....	5 00
TOULOUSE GEESE.		
Best pair .....	Thos. Waite, Perkins .....	5 00
Second best .....	French Bros., Stockton .....	3 00
PEKIN DUCKS.		
Best pair .....	French Bros., Stockton .....	5 00
Second best .....	S. P. Roller, Red Bluff .....	3 00
GUINEA FOWLS.		
Best pair .....	S. P. Roller, Red Bluff .....	5 00
Second best .....	French Bros., Stockton .....	3 00
SPECIALS.		
JAPANESE BANTAMS.		
Best cock and hen .....	Mrs. F. H. Snow, San José .....	3 00
Best breeding pen .....	Mrs. F. H. Snow, San José .....	5 00
WHITE BANTAMS.		
Best cock and hen .....	Mrs. F. H. Snow, San José .....	3 00
Best breeding pen .....	Mrs. F. H. Snow, San José .....	5 00



## FIRST DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
JAPANESE GAME.		
Best cock and hen.....	Mrs. F. H. Snow, San José.....	\$3 00
Best breeding pen.....	Mrs. F. H. Snow, San José.....	5 00
BLACK-BREASTED RED GAME.		
Best cock and hen.....	French Bros., Stockton.....	3 00
Best cockerel and pullet.....	French Bros., Stockton.....	3 00
PEACOCKS.		
Best cock and hen.....	French Bros., Stockton.....	3 00
WHITE PILGRIM BANTAMS.		
Best cockerel and pullet.....	S. P. Roller, Red Bluff.....	3 00
CORNISH INDIAN GAME.		
Best cock and hen.....	French Bros., Stockton.....	3 00
Best cockerel and pullet.....	French Bros., Stockton.....	3 00
Best breeding pen.....	French Bros., Stockton.....	5 00
BUFF LEGHORNS.		
Best cock and hen.....	William Winslow, San José.....	3 00
Best cockerel and pullet.....	William Winslow, San José.....	3 00
Best breeding pen.....	William Winslow, San José.....	10 00

## SECOND DEPARTMENT.

## MACHINERY, IMPLEMENTS, ETC.

Exhibit.	Exhibitor.	Award.
CLASS I—MACHINERY, ENGINES, ETC.		
Best vapor or gas engine.....	Guthrie & Sprague, Sacramento ..	\$30 00
Best apparatus for raising water for irrigation purposes.....	Guthrie & Sprague, Sacramento ..	20 00
Best fire extinguisher.....	Guthrie & Sprague, Sacramento ..	Diploma.
Best spray pump for orchard.....	Stanton, Thomson & Co., Sac'to...	\$25 00
Best well pump.....	Miller Bros., Sacramento.....	10 00
Best gas machine in operation.....	Cook & Drew, Sacramento.....	12 50
Best waterwheel.....	Krogh Mfg. Co., San Francisco ..	Diploma.
Best hay and straw cutter.....	Schaw, Ingram, Batchner & Co., Sac.	\$1 00
CLASS II—AGRICULTURAL MACHINES—FIRST DIVISION.		
Best display of agricultural machinery by one house.....	Baker & Hamilton, Sacramento ..	25 00
Best threshing machine.....	Baker & Hamilton, Sacramento ..	15 00
Best horse hay rake.....	Stanton, Thomson & Co., Sac'to...	5 00
Best hay press.....	J. F. Hill, Sacramento.....	15 00
Best lawn mower.....	Schaw, Ingram, Batchner & Co., Sac.	1 00
Best gopher trap.....	Schaw, Ingram, Batchner & Co., Sac.	1 00
Best post-hole auger.....	Schaw, Ingram, Batchner & Co., Sac.	1 00
Best lawn sprinkler.....	Schaw, Ingram, Batchner & Co., Sac.	1 00
CLASS III—AGRICULTURAL MACHINES—SECOND DIVISION.		
Best grain broadcast sowing machine.....	Baker & Hamilton, Sacramento ..	5 00
Best mowing machine.....	Stanton, Thomson & Co., Sac'to...	5 00
Best self-binding harvester.....	Stanton, Thomson & Co., Sac'to...	5 00
Best one-horse cultivator.....	Stanton, Thomson & Co., Sac'to...	5 00
Best cultivator.....	Stanton, Thomson & Co., Sac'to...	5 00

## SECOND DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
CLASS IV—AGRICULTURAL MACHINES— THIRD DIVISION.		
Best windmill .....	Miller Bros., Sacramento .....	\$15 00
Best platform scales .....	Baker & Hamilton, Sacramento ..	Sil. Med.
Best farm gate .....	John Mason, Petaluma .....	\$10 00
Best refrigerator .....	L. L. Lewis, Sacramento .....	Diploma.
CLASS V—TOOLS AND HOUSEHOLD IMPLE- MENTS.		
Best display of dairy machinery .....	Baker & Hamilton, Sacramento ..	\$10 00
Best cream separator .....	Baker & Hamilton, Sacramento ..	Sil. Med.
Best cheese press .....	Baker & Hamilton, Sacramento ..	Diploma.
Best cheese vat and heater attached .....	Baker & Hamilton, Sacramento ..	\$5 00
Best churn .....	Baker & Hamilton, Sacramento ..	5 00
Best butter worker .....	Baker & Hamilton, Sacramento ..	Diploma.
Best washing machine .....	A. S. Hopkins Co., Sacramento ..	\$5 00
Best clothes wringer .....	Holbrook, Merrill & Stetson, Sac'to	Diploma.
Best clothes horse to occupy least space .....	A. S. Hopkins Co., Sacramento ..	\$1 00
Best wine and cider press .....	Krogh Mfg. Co., San Francisco ..	Dip. & \$5
Best pruning shears .....	Schaw, Ingram, Batchner & Co., Sac.	\$2 50
Best pruning knife .....	Schaw, Ingram, Batchner & Co., Sac.	2 50
CLASS VI—PLOWs.		
Best gang plow .....	Benicia Agricultural Wks., Benicia	15 00
Best sulky plow .....	Stanton, Thomson & Co., Sac'to ..	5 00
Best stubble plow .....	Benicia Agricultural Wks., Benicia	5 00
Best sod plow .....	Benicia Agricultural Wks., Benicia	5 00
Best steel plow .....	Stanton, Thomson & Co., Sac'to ..	5 00
Best one-horse plow .....	Stanton, Thomson & Co., Sac'to ..	5 00
Best chilled plow .....	Schaw, Ingram, Batchner & Co., Sac.	5 00
Best vineyard plow .....	Schaw, Ingram, Batchner & Co., Sac.	5 00
Best dynamometer .....	Stanton, Thomson & Co., Sac'to ..	5 00
CLASS VII—VEHICLES.		
Best closed family carriage .....	A. Meister & Sons, Sacramento ..	Dip. & \$20
Best open family carriage .....	A. Meister & Sons, Sacramento ..	Dip. & \$20
Best top buggy .....	J. F. Hill, Sacramento .....	Dip. & \$10
Best open buggy .....	A. Meister & Sons, Sacramento ..	\$10 00
Best two-seated open wagon .....	A. Meister & Sons, Sacramento ..	10 00
Best single-seated trotting wagon .....	J. F. Hill, Sacramento .....	10 00
Best farm wagon for general purposes .....	M. Kestler, Sacramento .....	15 00
Best spring market wagon .....	A. Meister & Sons, Sacramento ..	10 00
Best pleasure cart .....	J. F. Hill, Sacramento .....	10 00
Best breaking cart .....	J. F. Hill, Sacramento .....	10 00
Best training cart .....	A. Meister & Sons, Sacramento ..	10 00
Best ladies' phaeton .....	A. Meister & Sons, Sacramento ..	10 00
Best business wagon .....	A. Meister & Sons, Sacramento ..	10 00
Best wagon or carriage brake .....	J. F. Hill, Sacramento .....	Diploma.
Best carriage springs .....	Schaw, Ingram, Batchner & Co., Sac.	\$1 00
CLASS VIII—MISCELLANEOUS.		
Best yard or hand gate fixtures .....	John Mason, Petaluma .....	1 00
Best gasoline carbtorator .....	Guthrie & Sprague, Sacramento ..	Diploma.
Best hop press .....	J. F. Hill, Sacramento .....	Sil. Med.
Best fruit wagon .....	J. F. Hill, Sacramento .....	Diploma.
Best team of display horses .....	J. F. Hill, Sacramento .....	Diploma.
Best windmill pump .....	Miller Bros., Sacramento .....	Diploma.
Best display of machines in models .....	Thos. Isaacs, Sacramento .....	Sil. Med.
Best gas saver .....	Faultless Novelty Co., S. F. ....	Diploma.

## THIRD DEPARTMENT.

## TEXTILE FABRICS AND MATERIALS FROM WHICH THEY ARE MADE.

Exhibit.	Exhibitor.	Award.
CLASS I—CLOTHING AND KINDRED TEXTURES.		
Best Turkish rug .....	John Breuner, Sacramento .....	\$5 00
Best fifteen yards woolen carpet .....	John Breuner, Sacramento .....	2 00
Best double carpet coverlet .....	John Breuner, Sacramento .....	3 00
Best display of window cornices, curtains, and trimmings .....	John Breuner, Sacramento .....	2 00
Best display of carpets and rugs .....	John Breuner, Sacramento .....	10 00
Best ten pounds dressed ramie .....	W. H. Murray, San Francisco .....	5 00
Best ten yards ramie cloth .....	W. H. Murray, San Francisco .....	5 00
Best stocking yarn .....	Cal. Cotton Mills, San Francisco .....	3 00
Best display of towels and tablecloths .....	Cal. Cotton Mills, San Francisco .....	5 00
Best display of cotton duck and toweling .....	Cal. Cotton Mills, San Francisco .....	7 50
Best knitted shawl .....	Mrs. T. Deming, Sacramento .....	3 00
Best display of silk hosiery .....	Carlson-Currier Co., San Francisco .....	Sil. Med.
Best set of samples of California wool .....	W. H. Murray, San Francisco .....	\$2 00
Best display of dry goods .....	W. H. Murray, San Francisco .....	10 00
Best ten pounds dressed flax .....	Cal. Cotton Mills, San Francisco .....	3 00
Best ten yards flax or cotton .....	Cal. Cotton Mills, San Francisco .....	3 00
Best exhibit of burlaps, etc. ....	Cal. Cotton Mills, San Francisco .....	2 00
CLASS II—NEEDLE, SHELL, AND WAX WORK.		
Best embroidered table cover, four ends .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best embroidered fire screen .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best embroidered sofa pillow and cushion .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best embroidered tea cloth .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best, largest, and finest display of em- broidery on linen .....	Mrs. W. F. Bryant, San Francisco .....	10 00
Best embroidered sideboard cover .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best alliance embroidery .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best renaissance embroidery .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best embroidered center piece and doilies .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Largest and finest display of Turkish em- broidery .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best embroidery .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best embroidered bedspread .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best applique work .....	Mrs. W. F. Bryant, San Francisco .....	2 00
Best embroidery on plush .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best Kensington embroidery .....	Mrs. W. F. Bryant, San Francisco .....	3 00
Best child's afghan .....	Mrs. W. F. Bryant, San Francisco .....	2 00
Best embroidered table runner .....	Mrs. J. F. Adams, Stockton .....	3 00
Best embroidered toilet set, three pieces .....	Mrs. J. F. Adams, Stockton .....	3 00
Best braiding by hand .....	Mrs. J. F. Adams, Stockton .....	2 00
Best embroidered handkerchief case .....	Mrs. J. F. Adams, Stockton .....	3 00
Best painted toilet set, five pieces .....	Mrs. J. F. Adams, Stockton .....	10 00
Best set of Spanish drawn work on napkins or doilies .....	Mrs. J. F. Adams, Stockton .....	3 00
Best crocheted necktie .....	Mrs. J. F. Adams, Stockton .....	1 00
Best embroidery on bolting cloth .....	Mrs. J. F. Adams, Stockton .....	3 00
Best raised silk work .....	Mrs. W. E. J. Baughman, Sac'to .....	3 00
Best patchwork quilt .....	Mrs. P. T. Rich, Sacramento .....	3 00
Best crazy work quilt .....	Mrs. P. T. Rich, Sacramento .....	3 00
Best knit bedspread .....	Mrs. P. T. Rich, Sacramento .....	3 00
Best raised wool work .....	Mrs. D. M. Hughes, San Francisco .....	2 00
Best display of decorative painting on wood .....	Mrs. M. Colegrove, Sacramento .....	5 00
Best display of lace made by hand .....	Mrs. T. W. Hall, Sacramento .....	10 00
Best pair knit wool stockings .....	Mrs. S. J. Conrad, Sacramento .....	3 00
Best chenille embroidery .....	Mrs. Wm. East, Chico .....	3 00
Best silk embroidery on flannel .....	Mrs. Wm. East, Chico .....	3 00
Best display of millinery .....	Mrs. F. Sullivan, Sacramento .....	2 00
Best velvet bonnet .....	Mrs. F. Sullivan, Sacramento .....	5 00
Best hat .....	Mrs. F. Sullivan, Sacramento .....	5 00
Best silk bonnet .....	Mrs. F. Sullivan, Sacramento .....	5 00
Best display of feathers from California raised bird .....	Mrs. F. Sullivan, Sacramento .....	5 00
Largest and finest display of outline em- broidery .....	Mrs. Wm. East, Chico .....	2 00



## THIRD DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
Best crocheted shawl .....	Mrs. Wm. East, Chico .....	\$3 00
Best carriage afghan .....	Mrs. Wm. East, Chico .....	3 00
Best darned net, three pieces .....	Mrs. Wm. East, Chico .....	2 00
Best display of kensington, with floss on satin .....	Mrs. Wm. East, Chico .....	5 00
Best Danish drawn work .....	Mrs. Wm. East, Chico .....	3 00
Best embroidered point lace handkerchief .....	Mrs. Wm. East, Chico .....	2 00
Best display of children's clothing .....	Mrs. C. A. Patrick, Sacramento .....	15 00
Best display of ladies underwear .....	Mrs. C. A. Patrick, Sacramento .....	10 00
Best painted table cover, four ends .....	Mrs. S. Tryon, Sacramento .....	3 00
Best two painted panels .....	Mrs. S. Tryon, Sacramento .....	3 00
Best five paintings on ivory .....	Mrs. S. Tryon, Sacramento .....	5 00
Best display of paper flowers .....	Mrs. S. Tryon, Sacramento .....	1 00
Best embroidered necktie case .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best embroidered ladies' dress by hand .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best embroidered dressing gown .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best embroidered ottoman cover .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best embroidered chair seat and back .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best French embroidery .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best hand-sewing, three pieces .....	Mrs. R. E. Chappie, Sacramento .....	2 00
Best lounge afghan .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best laid plush painting .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best Queen Anne embroidery .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best, largest, and handsomest display of articles made by exhibitor .....	Mrs. R. E. Chappie, Sacramento .....	20 00
Best embroidered portiers .....	Mrs. R. E. Chappie, Sacramento .....	3 00
Best hearth rug, hand made .....	Mrs. R. E. Chappie, Sacramento .....	2 00
Best combination of tinting and embroidering .....	Mrs. T. Deming, Sacramento .....	3 00
Best embroidered glove case .....	Mrs. T. Deming, Sacramento .....	3 00
Best knit mittens .....	Mrs. T. Deming, Sacramento .....	2 00
Best crocheted purse .....	Mrs. T. Deming, Sacramento .....	2 00
Best luster painting .....	Mrs. Wm. Lyon, Sacramento .....	3 00
Best painted lambrequin .....	Mrs. Wm. Lyon, Sacramento .....	3 00
Best surface plush painting .....	Mrs. Wm. Lyon, Sacramento .....	3 00
Best bead work by hand .....	Mrs. Wm. Lyon, Sacramento .....	1 00
Best embroidered piano scarf, two ends .....	Mrs. Wm. Lyon, Sacramento .....	3 00
Best embroidered table scarf, two ends .....	Mrs. Wm. Lyon, Sacramento .....	3 00
Best fancy braiding by hand .....	Mrs. Wm. Lyon, Sacramento .....	2 00
Best set embroidered napkins .....	Mrs. Wm. Lyon, Sacramento .....	3 00
Best honiton lace work .....	Mrs. Wm. Lyon, Sacramento .....	3 00
Best macramé lace work .....	Mrs. B. Muddox, Sacramento .....	3 00
Best crocheted bedspread .....	Mrs. B. Muddox, Sacramento .....	3 00
Best variety porcelain painting .....	Mrs. A. C. Herrick, Sacramento .....	10 00
Best painted table scarf, two ends .....	Mrs. A. C. Herrick, Sacramento .....	2 00
Best painted wall banner .....	Mrs. A. C. Herrick, Sacramento .....	3 00
Best display of decorative painting on glass .....	Mrs. A. C. Herrick, Sacramento .....	5 00
For display (special) .....	Mrs. A. C. Herrick, Sacramento .....	20 00
Best display of decorative painting on bolting cloth .....	Mrs. Bartlett, Oakland .....	5 00
Best embroidered toilet set in silk .....	Mrs. Bartlett, Oakland .....	5 00
Best embroidered tray cloth .....	Mrs. Bartlett, Oakland .....	3 00
Best embroidered piano drape on India silk .....	Mrs. Bartlett, Oakland .....	3 00
JUVENILE DEPARTMENT.		
Best hand sewing, four pieces .....	Gypsy Thackham, Sacramento .....	Sil. Med.
Best needlework picture .....	Gypsy Thackham, Sacramento .....	\$5 00
Best crocheted work .....	Ollie Mekirk, Chico .....	Nap. ring.
Best worsted work embroidery .....	Ollie Mekirk, Chico .....	B. knife.
Best painting in water colors .....	Ollie Mekirk, Chico .....	Nap. ring.
Best leaf and moss work .....	Ollie Mekirk, Chico .....	Nap. ring.
Best pair of knit stockings .....	Ollie Mekirk, Chico .....	Nap. ring.
Best silk quilt .....	Margie Faris, Sacramento .....	\$5 00
Best silk embroidery .....	Margie Faris, Sacramento .....	B. knife.
Best and most tastily made calico dress by a miss ten years old .....	Sybil E. Fish, Oakland .....	\$5 00
CLASS III—PRINTING, LITHOGRAPHING, ETC.		
Best display of sheet music, printed in California .....	Hammer's Music Store, Sac'to .....	Sil. Med.

## THIRD DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
CLASS IV—MISCELLANEOUS.		
For crazy-work portiers .....	Mrs. P. T. Rich, Sacramento .....	Diploma.
For display of health corsets .....	Mrs. S. Louis, San Francisco .....	Diploma.
For suspenders .....	Mrs. Wm. East, Chico .....	Diploma.
For two needle-work pictures .....	Mrs. D. Myers, Sacramento .....	Diploma.
For sideboard scarf, Spanish drawn work .....	Mrs. M. Justin, Courtland .....	Diploma.
For embroidered picture frame .....	Mrs. R. E. Chappie, Sacramento .....	Diploma.
For painted I. O. O. F. frame .....	Mrs. R. E. Chappie, Sacramento .....	Sil. Med.
For painted mirror .....	Mrs. R. E. Chappie, Sacramento .....	Diploma.
For fancy photograph-holder .....	Mrs. R. E. Chappie, Sacramento .....	Diploma.
For painted pottery umbrella stand .....	Mrs. A. C. Herrick, Sacramento .....	Diploma.
For embroidering machine, by foot .....	Newhall & Klaus, San Francisco .....	Sil. Med.

## FOURTH DEPARTMENT.

## MECHANICAL PRODUCTS.

Exhibit.	Exhibitor.	Award.
CLASS I—MANUFACTURES OF LEATHER, PAPER, AND RUBBER.		
Best set double harness .....	J. F. Hill, Sacramento .....	\$5 00
Best display of leather .....	Siebe-Glanville Co., San Francisco .....	Sil. Med.
Best display of shoe lasts, etc. ....	Siebe-Glanville Co., San Francisco .....	\$5 00
Best pair dress boots .....	Thos. Harper, Sacramento .....	5 00
Best pair heavy boots .....	Thos. Harper, Sacramento .....	5 00
Best pair dress shoes .....	Siebe-Glanville Co., San Francisco .....	5 00
Best pair Congress gaiters .....	Siebe-Glanville Co., San Francisco .....	5 00
Best pair ladies' slippers .....	Siebe-Glanville Co., San Francisco .....	3 00
Best pair ladies' gaiters .....	Siebe-Glanville Co., San Francisco .....	3 00
Best pair booties .....	Siebe-Glanville Co., San Francisco .....	3 00
Best display of men's and boys' boots, shoes, and gaiters .....	Thos. Harper, Sacramento .....	2 00
Best display of ladies' and girls' boots, shoes, and gaiters .....	Siebe-Glanville Co., San Francisco .....	Sil. Med.
Best Angora rugs and robes .....	C. P. Bailey, San José .....	\$5 00
Best display of paper .....	A. S. Hopkins Co., Sacramento .....	10 00
Best display of rubber hose and belting .....	Schaw, Ingram, Batcher & Co., Sac. .....	Sil. Med.
Best display of cordage .....	Schaw, Ingram, Batcher & Co., Sac. .....	Sil. Med.
Best display of leather belting .....	Schaw, Ingram, Batcher & Co., Sac. .....	Sil. Med.
CLASS II—WORKED METALS.		
Best display of metal ornaments for out- side work on buildings .....	Holbrook, Merrill & Stetson, Sac'to .....	\$5 00
Best display of copper work .....	Holbrook, Merrill & Stetson, Sac'to .....	5 00
Best display of brass work .....	Holbrook, Merrill & Stetson, Sac'to .....	10 00
Best display of tin ware .....	Holbrook, Merrill & Stetson, Sac'to .....	2 00
Best display of modern building hardware .....	Schaw, Ingram, Batcher & Co., Sac. .....	10 00
Best display of plumbers' goods and wares .....	Holbrook, Merrill & Stetson, Sac'to .....	2 00
Best gas chandelier and burner .....	Crouch & Co., Sacramento .....	10 00
Best display of lamps .....	Crystal Palace, Sacramento .....	1 00
Best display of blacksmith tools .....	Schaw, Ingram, Batcher & Co., Sac. .....	6 00
Best display of general hardware .....	Schaw, Ingram, Batcher & Co., Sac. .....	10 00
Best display of iron, steel, and coal .....	Schaw, Ingram, Batcher & Co., Sac. .....	Sil. Med.
Best display of axles .....	Schaw, Ingram, Batcher & Co., Sac. .....	Sil. Med.
Best display of barbed-wire fencing .....	Schaw, Ingram, Batcher & Co., Sac. .....	S. M. & \$5
Best display of mechanics' tools .....	Schaw, Ingram, Batcher & Co., Sac. .....	10 00
Best display of horseshoes, hand-made .....	Kelley Bros., Sheldon .....	Sil. Med.
Best display of table cutlery .....	Crystal Palace, Sacramento .....	\$2 00
Best display of pocket cutlery .....	Schaw, Ingram, Batcher & Co., Sac. .....	5 00
Best display of plated ware .....	Schaw, Ingram, Batcher & Co., Sac. .....	10 00
Best display of kitchen utensils—brass, etc. ....	Holbrook, Merrill & Stetson, Sac'to .....	1 00

## FOURTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
Best display of kitchen utensils—tin .....	Holbrook, Merrill & Stetson, Sac'to	\$5 00
Best circular saw .....	Schaw, Ingram, Batchner & Co., Sac.	5 00
Best mill saw .....	Schaw, Ingram, Batchner & Co., Sac.	5 00
Best display of files .....	Schaw, Ingram, Batchner & Co., Sac.	3 00
Best milk cans .....	Holbrook, Merrill & Stetson, Sac'to	1 00
Best exhibit of lead pipe .....	Holbrook, Merrill & Stetson, Sac'to	1 00
Best anti-friction metal .....	Schaw, Ingram, Batchner & Co., Sac.	1 00
Best exhibit of shot .....	Schaw, Ingram, Batchner & Co., Sac.	1 00
Best display of wire goods .....	Schaw, Ingram, Batchner & Co., Sac.	6 00
Best display of butchers' supplies, etc. ....	Schaw, Ingram, Batchner & Co., Sac.	1 00
CLASS III—STOVES, CASTINGS, ETC.		
Best cooking stove for wood .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best cooking stove for coal .....	L. L. Lewis, Sacramento .....	5 00
Best parlor stove .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best gas stove .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best oil stove .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best gasoline stove .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best warming furnace .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best cooking range .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best parlor grate .....	Crouch & Co., Sacramento .....	3 00
Best pair ornamental iron vases .....	Holbrook, Merrill & Stetson, Sac'to	3 00
Best hollow iron ware .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best farmers' cauldron .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best laundry stove .....	Holbrook, Merrill & Stetson, Sac'to	5 00
Best Japanese ware .....	Crystal Palace, Sacramento .....	5 00
Best gas and water pipe .....	Baker & Hamilton, Sacramento .....	Diploma.
Best water and steam gates .....	Schaw, Ingram, Batchner & Co., Sac.	\$1 00
Best asphaltum pipe .....	W. W. Chapin, Sacramento .....	Diploma.
Best assortment bathing tubs .....	Crouch & Co., Sacramento .....	\$1 00
Best display of ornamental statuary .....	Crystal Palace, Sacramento .....	5 00
CLASS V—FURNITURE.		
Best display of furniture .....	John Breuner, Sacramento .....	10 00
Best set parlor furniture .....	John Breuner, Sacramento .....	20 00
Best set bed-room furniture .....	John Breuner, Sacramento .....	5 00
Best set dining-room furniture .....	John Breuner, Sacramento .....	5 00
Best set library furniture .....	John Breuner, Sacramento .....	5 00
Best set office furniture .....	John Breuner, Sacramento .....	5 00
Best set school furniture .....	Capital Furniture Co., Sacramento	5 00
Best folding bed .....	John Breuner, Sacramento .....	5 00
Best sofa .....	John Breuner, Sacramento .....	5 00
Best lounge .....	John Breuner, Sacramento .....	5 00
Best extension table .....	John Breuner, Sacramento .....	5 00
Best set parlor chairs .....	John Breuner, Sacramento .....	10 00
Best dressing bureau .....	John Breuner, Sacramento .....	5 00
Best pair side tables .....	John Breuner, Sacramento .....	5 00
Best display of upholstery .....	John Breuner, Sacramento .....	5 00
Best spring mattress .....	John Breuner, Sacramento .....	5 00
Best hair mattress .....	John Breuner, Sacramento .....	5 00
Best wool mattress .....	John Breuner, Sacramento .....	3 00
Best wardrobe .....	John Breuner, Sacramento .....	5 00
Best sick chair or couch .....	John Breuner, Sacramento .....	5 00
Best display of iron furniture .....	John Breuner, Sacramento .....	5 00
Best display of willow furniture .....	John Breuner, Sacramento .....	10 00
Best wooden mantle .....	Crouch & Co., Sacramento .....	5 00
CLASS VI—WOODENWARE.		
Best display of cedarware .....	A. S. Hopkins Co., Sacramento .....	5 00
Best display of pineware .....	A. S. Hopkins Co., Sacramento .....	5 00
Best display of oakware .....	A. S. Hopkins Co., Sacramento .....	5 00
Best display of window shades .....	John Breuner, Sacramento .....	5 00
Best display of willowware .....	A. S. Hopkins Co., Sacramento .....	5 00
Best display of splitwood baskets .....	A. S. Hopkins Co., Sacramento .....	3 00
Best display of turned lathe work .....	Wm. X. Clark, Sacramento .....	5 00
Best display of osier .....	A. S. Hopkins Co., Sacramento .....	5 00
Best display of woodenware .....	A. S. Hopkins Co., Sacramento .....	5 00
Best exhibition of broomcorn, brooms, and brushes .....	A. S. Hopkins Co., Sacramento .....	5 00
Best assortment coopers' ware .....	John Oschner, Sacramento .....	10 00



## FOURTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
CLASS VII—ELECTRICAL APPLIANCES, ETC.		
Best annunciator .....	H. A. Lawton, Brunswick, Ga. ....	\$5 00
Best assortment of spectacles and eye glasses, showing different styles and shapes of frames and nose pieces .....	H. A. Lawton, Brunswick, Ga. ....	Sil. Med.
Best assortment of convex, concave, cylindrical, and plano lenses .....	H. A. Lawton, Brunswick, Ga. ....	Diploma.
Best optical apparatus .....	H. A. Lawton, Brunswick, Ga. ....	Diploma.
Best breech-loading shotgun .....	Schaw, Ingram, Batcher & Co., Sac.	\$5 00
Best bicycle ("Rambler") .....	F. M. Jones, Agt., Sacramento .....	Sil. Med.
Best thermometer .....	Baker & Hamilton, Sacramento .....	Diploma.
Best burglar alarm bell .....	Automatic Alarm Bell Co., S. F. ....	\$5 00
CLASS VIII—CHEMICALS.		
Best disinfectant and antiseptic ("Lulles' Phenyle") .....	Catton, Bell & Co., San Francisco.	Sil. Med.
Best stove polish .....	A. S. Hopkins Co., Sacramento .....	\$1 00
Best axle grease .....	A. S. Hopkins Co., Sacramento .....	1 00
CLASS IX—STONEWARE, BRICKS, TILES, CROCKERY, GLASS, ETC.		
Best barrel of lime .....	Henry Cowell, Sacramento .....	1 00
Best barrel of hydraulic cement .....	Henry Cowell, Sacramento .....	1 00
Best barrel of plaster .....	Henry Cowell, Sacramento .....	1 00
Best display of stoneware .....	Muddox & Co., Sacramento .....	5 00
Best water pipe .....	Muddox & Co., Sacramento .....	1 00
Best drain pipe or tile .....	Muddox & Co., Sacramento .....	5 00
Best sewer pipe .....	Muddox & Co., Sacramento .....	5 00
Best roofing tile .....	Muddox & Co., Sacramento .....	5 00
Best flooring tile .....	Muddox & Co., Sacramento .....	5 00
Best display of terra cotta .....	Muddox & Co., Sacramento .....	10 00
Best display of fire brick .....	Muddox & Co., Sacramento .....	3 00
Best pottery, various kinds .....	Muddox & Co., Sacramento .....	2 00
Best display of ironware .....	Muddox & Co., Sacramento .....	1 00
Best display of demijohns .....	A. S. Hopkins Co., Sacramento .....	1 00
Best display of table and bar glassware .....	Crystal Palace, Sacramento .....	6 00
Best display of queensware .....	Crystal Palace, Sacramento .....	5 00
CLASS XI—MARBLE AND GRANITE WORK.		
Best collection of polished California marble work .....	John Breuner, Sacramento .....	10 00
CLASS XII—INCUBATORS.		
Best display in operation .....	Bailey & Lee, Sacramento .....	12 50
For hatching greatest number of chicks during Fair .....	Bailey & Lee, Sacramento .....	5 00
Best brooder .....	Bailey & Lee, Sacramento .....	5 00
Best poultry house .....	Bailey & Lee, Sacramento .....	5 00
Best poultry fixtures .....	Bailey & Lee, Sacramento .....	5 00
CLASS XIII—MISCELLANEOUS.		
Best 15-ball pool register .....	Robbins Bros., Sacramento .....	Diploma.
Best electric oven .....	Holbrook, Merrill & Stetson, Sac'to .....	\$1 00
Best fruit carrier .....	F. A. Johnson, Sacramento .....	Sil. Med.
Best coil-spring, steel-wire fencing .....	M. S. Tarkington, Tulare .....	Diploma.
Best water-closet .....	Holbrook, Merrill & Stetson, Sac'to .....	\$1 00
Best steel range .....	Holbrook, Merrill & Stetson, Sac'to .....	1 00
Best plumbers' gasoline pot and torch .....	Holbrook, Merrill & Stetson, Sac'to .....	1 00
Best bay rum (Pierce's) .....	J. R. Russell, San Francisco .....	Diploma.
Best Florida water (Pierce's) .....	J. R. Russell, San Francisco .....	Diploma.
Best mattress brace .....	P. M. Baier, Tulare .....	Diploma.
Best display of enameled-iron cooking utensils .....	Holbrook, Merrill & Stetson, Sac'to .....	\$1 00
Best non-shrinking tank .....	Pacific Tank Co., San Francisco .....	Diploma.
Best sheep dip (Little's) .....	Catton, Bell & Co., San Francisco.	Diploma.

## FIFTH DEPARTMENT.

## AGRICULTURAL PRODUCTS.

Exhibit.	Exhibitor.	Award.
CLASS I—FARM PRODUCTS.		
For the most extensive, perfect, and varied exhibit of farm products, grown by one person .....	Mrs. M. E. Williamson, Sac'to.....	\$100 00
CLASS II—SILK, COTTON, AND TOBACCO.		
Best general display of silks.....	Carlson-Currier Co., San Fran.....	15 00
Best display of thrown and twisted silk in the gum and boiled off .....	Carlson-Currier Co., San Fran.....	5 00
Best display of machine spool silk .....	Carlson-Currier Co., San Fran.....	5 00
Best display of cocoons, eggs, and moths ..	Carlson-Currier Co., San Fran.....	5 00
Best display of knitting silk .....	Carlson-Currier Co., San Fran.....	5 00
Best display of spool embroidery .....	Carlson-Currier Co., San Fran.....	5 00
Best display of skein embroidery .....	Carlson-Currier Co., San Fran.....	5 00
Best display of tobacco in leaf .....	Pioneer O. & V. Co., Porterville.....	5 00
Best bale of California cotton .....	California Cotton Mills, San Fran.....	10 00
Best display of manufactured tobacco .....	M. A. Gunst & Co., San Fran.....	Sil. Med.
CLASS III—FLOUR AND GRAIN.		
Best sample of White Chile wheat .....	H. Poffenberger, Cranmore .....	\$5 00
Best sample of buckwheat .....	John Cole, Cranmore .....	5 00
Best exhibit of garden seeds .....	Sunset Seed and Plant Co., S. F.....	S. M. & \$5
Best sample of Proper wheat .....	John H. Hamilton, Sacramento .....	\$5 00
Best sample of hops .....	Stanley Flint, Sacramento .....	2 00
Best sample of Australian wheat .....	C. A. Hull, Union House .....	5 00
Best sample of barley .....	C. A. Hull, Union House .....	5 00
Best sample of oats .....	C. A. Hull, Union House .....	5 00
Best sample of Sonora wheat .....	W. W. Greer, Sacramento .....	5 00
Best and greatest variety of wheat, in ear or head .....	W. W. Greer, Sacramento .....	5 00
Best sack yellow corn .....	W. W. Greer, Sacramento .....	3 00
Best sack White Club wheat .....	E. Poffenberger, Cranmore .....	5 00
Best and largest display of grain in sheaf ..	S. W. Charles, Palo Alto .....	40 00
Second best .....	Geo. Ohleyer, Yuba City .....	20 00
CLASS IV—VEGETABLES, ROOTS, ETC.		
Best twelve parsnips .....	R. T. Sutton, Yuba City .....	2 00
Best six turnip beets .....	R. T. Sutton, Yuba City .....	2 00
Best peck tomatoes .....	R. T. Sutton, Yuba City .....	2 00
Best half peck red onions .....	R. T. Sutton, Yuba City .....	2 00
Best half peck yellow onions .....	R. T. Sutton, Yuba City .....	2 00
Best half peck white onions .....	R. T. Sutton, Yuba City .....	2 00
Best dozen sweet corn (green) .....	R. T. Sutton, Yuba City .....	2 00
Best three watermelons ("Dixie") .....	R. T. Sutton, Yuba City .....	2 00
Best half peck pole beans in pod .....	R. T. Sutton, Yuba City .....	2 00
Best and largest pumpkin .....	Pioneer Orchard and Vineyard Co., Porterville .....	2 00
Best six sugar beets .....	Pioneer Orchard and Vineyard Co., Porterville .....	2 00
Best sack red potatoes .....	Felix Gabrielle, Sacramento .....	3 00
Best sack white potatoes .....	Felix Gabrielle, Sacramento .....	3 00
Best and greatest variety of Irish potatoes ..	Felix Gabrielle, Sacramento .....	3 00
Best twelve carrots .....	Felix Gabrielle, Sacramento .....	2 00
Best six drumhead cabbage .....	Felix Gabrielle, Sacramento .....	2 00
Best six red Dutch cabbage .....	Felix Gabrielle, Sacramento .....	2 00
Best six heads any other variety .....	Felix Gabrielle, Sacramento .....	2 00
Best three cauliflower .....	Felix Gabrielle, Sacramento .....	2 00
Best three broccoli .....	Felix Gabrielle, Sacramento .....	2 00
Best twelve roots salsify .....	Felix Gabrielle, Sacramento .....	2 00
Best three mountain sweet watermelons ..	Felix Gabrielle, Sacramento .....	2 00
Best half peck lima beans in pod .....	Felix Gabrielle, Sacramento .....	2 00
Best half peck kidney bush beans .....	Felix Gabrielle, Sacramento .....	2 00
Best half peck field peas, dried .....	Felix Gabrielle, Sacramento .....	2 00
Best half peck gherkin cucumbers .....	Felix Gabrielle, Sacramento .....	2 00
Best six cucumbers .....	J. H. Hamilton, Sacramento .....	2 00
Best three muskmelons .....	J. H. Hamilton, Sacramento .....	2 00

## FIFTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
Best three cantaloupes .....	J. H. Hamilton, Sacramento .....	\$2 00
Best six long blood beets .....	W. W. Greer, Sacramento .....	2 00
Best six heads lettuce .....	W. W. Greer, Sacramento .....	2 00
Best half peck peppers for pickling .....	W. W. Greer, Sacramento .....	2 00
Best six marrow squashes .....	W. W. Greer, Sacramento .....	2 00
Best six hubbard squashes .....	W. W. Greer, Sacramento .....	2 00
Best half peck white beans, dried .....	Sunset Seed and Plant Co., S. F. .....	2 00
Best half peck garden peas, dried .....	Sunset Seed and Plant Co., S. F. .....	2 00
Best and greatest variety peas .....	Sunset Seed and Plant Co., S. F. .....	2 00
Best sack sweet potatoes .....	H. Poffenberger, Cranmore .....	3 00
Best crooknecked squash .....	Mrs. E. Shields, Routiers .....	2 00
CLASS V—FLOWERS.		
Best collection of ornamental foliage plants .....	Bell Conservatory Co., Sac'to .....	20 00
Best display of cut flowers .....	Bell Conservatory Co., Sac'to .....	20 00
Best collection of new and rare plants .....	Bell Conservatory Co., Sac'to .....	15 00
Best collection of fuchsias in bloom .....	Bell Conservatory Co., Sac'to .....	10 00
Best collection of ferns .....	Bell Conservatory Co., Sac'to .....	15 00
Best display of bouquets .....	Bell Conservatory Co., Sac'to .....	10 00
Best display of hanging baskets contain- ing plants .....	Bell Conservatory Co., Sac'to .....	10 00
Best and largest collection of flowering plants in bloom .....	Elm Nursery, Sacramento .....	20 00
Best display of coleus, varieties distinct .....	Elm Nursery, Sacramento .....	15 00
Best and most varied exhibit of named varieties of dahlias .....	Elm Nursery, Sacramento .....	10 00
Best collection of tuberose .....	Elm Nursery, Sacramento .....	10 00
Best collection of pinks .....	Elm Nursery, Sacramento .....	10 00
Best collection of plants suitable for green- house, conservatory, and window culture .....	Bell Conservatory Co., Sac'to .....	15 00
Best display of cut flower designs .....	Bell Conservatory Co., Sac'to .....	25 00
CLASS VI—CHEESE.		
Best cheese one year old and over .....	John Burns, Nicolaus .....	15 00
Best cheese under one year .....	John Burns, Nicolaus .....	10 00
Best and largest display of cheese .....	John Burns, Nicolaus .....	15 00
CLASS VII—CURED MEATS, BUTTER, BREAD, ETC.		
Best display of butter in rolls, not less than forty pounds .....	C. A. Hull, Union House .....	10 00
Best firkin butter three months old .....	C. A. Hull, Union House .....	5 00
Best display of home-cured <sup>d</sup> hams, bacon, and lard, with formula .....	Mrs. E. Shields, Routiers .....	10 00
BREAD AND CEREAL FOOD.		
Best biscuit .....	Belle Johnson, Sacramento .....	2 00
Best pilot bread .....	Henry Fisher, Sacramento .....	2 00
Best butter crackers .....	Henry Fisher, Sacramento .....	2 00
Best Boston crackers .....	Henry Fisher, Sacramento .....	2 00
Best display of domestic bread .....	Mrs. F. P. Lowell, Sacramento .....	10 00
Best display of wheat bread .....	Mrs. F. P. Lowell, Sacramento .....	2 00
Best display of corn bread .....	Mrs. F. P. Lowell, Sacramento .....	2 00
Best display of brown bread .....	Mrs. F. P. Lowell, Sacramento .....	2 00
Best home-made Boston crackers .....	Mrs. F. P. Lowell, Sacramento .....	1 00
Best soda biscuit .....	Belle Muddox, Sacramento .....	2 00
Best sweet crackers .....	Belle Muddox, Sacramento .....	2 00
Best domestic rye bread .....	Belle Muddox, Sacramento .....	2 00
Best graham bread .....	Belle Muddox, Sacramento .....	2 00
Best home-made butter crackers .....	Mrs. S. J. Conrad, Sacramento .....	1 00
CLASS VIII—SUGAR, SYRUP, ETC.		
Best general display of confectionery .....	Otto Kaufman, Sacramento .....	10 00
Best general varieties of candies .....	Otto Kaufman, Sacramento .....	5 00
Best flavoring extracts .....	J. R. Russell, San Francisco .....	Diploma.
Best one hundred pounds of sugar made from beets .....	M. H. Weed, San Francisco .....	\$10 00



## FIFTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
CLASS IX—MISCELLANEOUS.		
For new process preserving fruits without cooking or sealing .....	Mrs. Maud Payne, Oakland .....	Diploma.
Best sack of Fife wheat .....	W. W. Greer, Sacramento .....	\$1 00
Best waffles .....	Mrs. F. P. Lowell, Sacramento .....	1 00
Best graham rolls .....	Mrs. F. P. Lowell, Sacramento .....	1 00
Best rolls .....	Mrs. F. P. Lowell, Sacramento .....	1 00
Best bale alfalfa .....	H. Poffenberger, Cranmore .....	1 00
Best bale broomcorn .....	H. Poffenberger, Cranmore .....	1 00
Best sack broomcorn seed .....	H. Poffenberger, Cranmore .....	1 00
Best sack Egyptian corn .....	H. Poffenberger, Cranmore .....	1 00
Best display of squashes .....	W. W. Greer, Sacramento .....	1 00
Best general display of vegetables .....	R. T. Sutton, Yuba City .....	1 00

## SIXTH DEPARTMENT.

## HORTICULTURAL PRODUCTS—COUNTY EXHIBITS.

Exhibit.	Exhibitor.	Award.
SOCIETY'S PRIZES—SPECIAL PREMIUMS.		
For best arranged and most extensive, perfect, and varied exhibit of orchard and farm products by county .....	Tulare County .....	\$1,000 00
Second best .....	Sutter County .....	500 00
Third best .....	Sacramento County .....	250 00
Best arranged and artistic exhibit of fresh deciduous fruits, by grower .....	W. W. Greer, Sacramento .....	50 00
Best arranged and artistic exhibit of citrus fruits, by grower .....	P. Baier, Porterville .....	50 00
For most meritorious exhibit in this department (exclusive of county exhibits) .....	R. Williamson, Sacramento .....	Gold Med
CLASS I—DECIDUOUS FRUITS.		
<i>Apples.</i>		
Best exhibit of apples, by variety .....	I. H. Thomas, Visalia .....	S.M. & \$25
Best exhibit of apples, grown by one person .....	I. H. Thomas, Visalia .....	\$20 00
Best twelve varieties of apples, on plate .....	California Nursery Co., Niles .....	10 00
Best packed box for shipment .....	Mrs. Shields, Routiers .....	5 00
<i>Pears.</i>		
Best exhibit, by variety .....	California Nursery Co., Niles .....	S.M. & \$25
Best exhibit, grown by one person .....	I. H. Thomas, Visalia .....	\$20 00
Best packed box .....	Mrs. Shields, Routiers .....	5 00
<i>Peaches.</i>		
Best exhibit, by variety .....	California Nursery Co., Niles .....	S.M. & \$25
Best twelve varieties, on plate .....	California Nursery Co., Niles .....	\$10 00
Best exhibit, grown by one person .....	I. H. Thomas, Visalia .....	20 00
Best packed box .....	Mrs. Shields, Routiers .....	5 00
<i>Nectarines.</i>		
Best exhibit, by variety .....	A. F. Abbott, Tudor .....	27 00
Best exhibit, grown by one person .....	California Nursery Co., Niles .....	20 00
Best twelve varieties, on plate .....	California Nursery Co., Niles .....	15 00
<i>Plums—Prunes.</i>		
Best exhibit, by variety .....	I. H. Thomas, Visalia .....	S.M. & \$25
Best exhibit, grown by one person .....	A. F. Abbott, Tudor .....	\$20 00
Best twelve varieties, on plate .....	California Nursery Co., Niles .....	15 00

## SIXTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
<i>Figs.</i>		
Best exhibit, by variety .....	R. Williamson, Sacramento .....	S.M. & \$10
Best exhibit, grown by one person .....	W. W. Greer, Sacramento .....	\$5 00
CLASS II—SEMI-TROPICAL FRUITS.		
<i>Oranges.</i>		
Best exhibit, by variety .....	Pioneer Orchard and Vineyard Company, Porterville .....	S.M. & \$25
Best exhibit, grown by one person .....	Pioneer O. & V. Co., Porterville .....	\$20 00
Best display of seedlings .....	Pioneer O. & V. Co., Porterville .....	10 00
Best packed box .....	Pioneer O. & V. Co., Porterville .....	10 00
Best twelve varieties, on plate .....	Pioneer O. & V. Co., Porterville .....	15 00
<i>Lemons.</i>		
Best lemon, open to all .....	Pioneer O. & V. Co., Porterville .....	Sp. G. M.
Best exhibit, by variety .....	Pioneer O. & V. Co., Porterville .....	S.M. & \$25
Best exhibit, grown by one person .....	Pioneer O. & V. Co., Porterville .....	\$20 00
Best thirty Lisbon .....	Pioneer O. & V. Co., Porterville .....	10 00
Best thirty Eureka .....	Pioneer O. & V. Co., Porterville .....	10 00
Best thirty Villa Franca .....	Pioneer O. & V. Co., Porterville .....	10 00
Best thirty Genoa .....	Pioneer O. & V. Co., Porterville .....	10 00
Best thirty any other variety not men- tioned .....	Pioneer O. & V. Co., Porterville .....	10 00
Best packed box .....	Pioneer O. & V. Co., Porterville .....	15 00
<i>Limes.</i>		
Best exhibit, by variety .....	Pioneer O. & V. Co., Porterville .....	S.M. & \$15
Best grown by one person .....	Pioneer O. & V. Co., Porterville .....	\$10 00
CLASS III—SEMI-TROPICAL FRUITS, OTHER THAN CITRUS.		
Most meritorious exhibit .....	Pioneer O. & V. Co., Porterville .....	S.M. & \$25
Best exhibit, embracing the greatest varieties .....	Pioneer O. & V. Co., Porterville .....	\$15 00
CLASS IV—OLIVES.		
Best exhibit pickled olives, by variety (ripe) .....	Pioneer O. & V. Co., Porterville .....	S.M. & \$25
Best exhibit pickled olives (green) .....	Pioneer O. & V. Co., Porterville .....	\$10 00
Best exhibit dried olives .....	Pioneer O. & V. Co., Porterville .....	10 00
CLASS V—VEGETABLE OILS.		
Most meritorious exhibit of olive oil, em- bracing quality and variety .....	Edward E. Goodrich, Santa Clara .....	[& \$25 Sp. G. M.
Best exhibit olive oil, one variety .....	Edward E. Goodrich, Santa Clara .....	\$15 00
CLASS VI—CULTIVATED NUTS.		
Best and largest exhibit of walnuts .....	California Nursery Co., Niles .....	S.M. & \$25
Best exhibit of walnuts, by variety .....	California Nursery Co., Niles .....	\$15 00
Best and largest exhibit of almonds .....	R. Williamson, Sacramento .....	27 00
Best exhibit of almonds, by variety .....	Pioneer O. & V. Co., Porterville .....	15 00
Best exhibit of pecans .....	Pioneer O. & V. Co., Porterville .....	5 00
Best exhibit of peanuts .....	Pioneer O. & V. Co., Porterville .....	5 00
CLASS VII—TABLE GRAPES.		
Best exhibit of tables grapes, by variety .....	Mrs. E. L. Hawk, Sacramento .....	S.M. & \$25
Best twelve varieties table grapes .....	I. H. Thomas, Visalia .....	\$15 00
Best three varieties table grapes .....	W. W. Greer, Sacramento .....	10 00
CLASS VIII—DRIED AND PRESERVED FRUITS.		
Most meritorious exhibit, embracing qual- ity and variety .....	I. H. Thomas, Visalia .....	Sp. G. M.
Best general display, five varieties .....	A. F. Abbott, Tudor .....	\$25 00
Best single display by one person .....	Mrs. Shields, Routiers .....	20 00
Best packed box .....	Mrs. Shields, Routiers .....	S.M. & \$10
CLASS IX—RAISINS.		
Best general display .....	I. H. Thomas, Visalia .....	S.M. & \$25
Best display by one person .....	Mrs. J. Starr, Yuba City .....	\$15 00

## SIXTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
CLASS X—HONEY, PRESERVES, PICKLES, ETC.		
Best ten pounds California comb honey.....	I. H. Thomas, Visalia.....	\$10 00
Best display of fruit in glass.....	Mrs. Muddox, Sacramento.....	15 00
Best six jars blackberry jelly.....	Mrs. Muddox, Sacramento.....	3 00
Best six jars raspberry jelly.....	Mrs. E. L. Hawk, Sacramento.....	3 00
Most meritorious exhibit.....	Mrs. Muddox, Sacramento.....	Sil. Med.
Best six jars blackberry currant jelly.....	Mrs. Muddox, Sacramento.....	\$3 00
Best six jars quince jelly.....	Mrs. Muddox, Sacramento.....	3 00
Best six jars lemon jelly.....	Mrs. Muddox, Sacramento.....	3 00
Best six jars blackberry jam.....	Mrs. E. L. Hawk, Sacramento.....	3 00
Best display of jams and jellies.....	Mrs. Muddox, Sacramento.....	10 00
Best ten lbs. California honey extracted.....	Mrs. Muddox, Sacramento.....	5 00
Best six jars raspberry jelly in glass.....	Mrs. Muddox, Sacramento.....	3 00
Best six jars red currant jelly in glass.....	Mrs. E. L. Hawk, Sacramento.....	3 00
Best six jars strawberry jelly in glass.....	Mrs. Muddox, Sacramento.....	3 00
Best six jars guava jelly in glass.....	Mrs. Muddox, Sacramento.....	3 00
Best six jars loquat jelly in glass.....	Mrs. Muddox, Sacramento.....	3 00
Best six jars orange jelly in glass.....	Mrs. Muddox, Sacramento.....	3 00
Best orange marmalade.....	Mrs. Muddox, Sacramento.....	3 00
Best display of pickles.....	Mrs. Williamson, Sacramento.....	3 00
Best display of concentrated grape must.....	Mrs. Muddox, Sacramento.....	5 00
Best gallon grape syrup.....	Mrs. Muddox, Sacramento.....	5 00
Best display of brandied peaches.....	W. W. Greer, Sacramento.....	3 00
CLASS II—MISCELLANEOUS.		
Six bottles plum butter.....	Mrs. Williamson, Sacramento.....	1 00
Three jars peach preserves.....	Mrs. Williamson, Sacramento.....	1 00
Six jars cherry preserves.....	Mrs. Williamson, Sacramento.....	1 00
Six jars plum preserves.....	Mrs. Williamson, Sacramento.....	1 00
Three jars watermelon preserves.....	Mrs. Williamson, Sacramento.....	1 00
Display of mammoth quince.....	John L. Stubbs, Florin.....	1 00
Display of plum jelly.....	Mrs. Hawk, Sacramento.....	1 00
Display of peach jelly.....	Mrs. Hawk, Sacramento.....	1 00
Display of Catawba jelly.....	Mrs. Muddox, Sacramento.....	1 00
Display of apple jelly.....	Mrs. Hawk, Sacramento.....	1 00
Display of nectarine jelly.....	Mrs. Hawk, Sacramento.....	1 00
Display of ribbon jelly.....	Mrs. Hawk, Sacramento.....	1 00
Display of canned peaches.....	Mrs. Hawk, Sacramento.....	1 00
Display of canned cherries.....	Mrs. Hawk, Sacramento.....	1 00
Display of canned pears.....	Mrs. Hawk, Sacramento.....	1 00
Display of Edward's cling peaches.....	J. H. Hamilton, Sacramento.....	Diploma.
Display of Salway peaches.....	J. H. Hamilton, Sacramento.....	\$1 00
Display of Sacramento peaches.....	J. H. Hamilton, Sacramento.....	1 00
Display of Japanese persimmons.....	J. H. Hamilton, Sacramento.....	1 00
Display of Scotch millet.....	J. H. Hamilton, Sacramento.....	1 00
Display of blackberries, dried.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of popcorn.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of rose leaves.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of cherry bounce.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of apple butter.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of soft soap.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of sunflower seed.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of pickled Chinese beans.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of cucumber pickles.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of chow-chow.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Display of rhubarb preserved in cold water.....	Mrs. M. E. Williamson, Sac'to.....	1 00
Best display of fruits in glass and can.....	Sacramento Packing and Drying Co., Sacramento.....	Diploma.
Best display of filberts.....	California Nursery Co., Niles.....	Diploma.



## SEVENTH DEPARTMENT.

## VITICULTURE.

Exhibit.	Exhibitor.	Award.
CLASS I—BRANDIES.		
Best grape brandy (1886) .....	Geo. West & Son, Stockton .....	\$20 00
Best grape brandy (1892) .....	Geo. West & Son, Stockton .....	15 00
Best peach brandy, two years and over .....	I. De Turk, Santa Rosa .....	15 00
CLASS II—DRY WINE.		
Best general display of California wines ..	C. A. Wetmore, Livermore .....	S. M. & \$25
Best white wine, Sauterne type .....	I. De Turk, Santa Rosa .....	\$20 00
Best white wine, Rhenish type .....	I. De Turk, Santa Rosa .....	20 00
Best Cabernet claret wine .....	John Crellin & Son, Livermore ..	20 00
Best red wine, Burgundy type .....	I. De Turk, Santa Rosa .....	20 00
CLASS III—SWEET WINES.		
Best California sherry, two years and over ..	Geo. West & Son, Stockton .....	20 00
Best California port, two years and over ..	Geo. West & Son, Stockton .....	20 00
Best California angelica, two years and over ..	J. L. Beard, Warm Springs .....	20 00
Best Sweet Muscat, two years and over .....	J. L. Beard, Warm Springs .....	Sil. Med.
CLASS IV—CHAMPAGNE.		
Best California champagne .....	A. Haraszthy, San Francisco .....	10 00
CLASS VI—WINE GRAPES.		
Best display of wine grapes, 24 varieties ..	Jos. Sims, Sacramento .....	15 00
Best display of wine grapes, 3 varieties .....	I. H. Thomas, Visalia .....	10 00
CLASS VIII—VINEGAR.		
Best barrel wine vinegar .....	W. W. Greer, Sacramento .....	5 00
CLASS IX—BEER.		
Best lager beer .....	Buffalo Brewing Co., Sacramento ..	Dip. & \$10
Best export beer .....	Buffalo Brewing Co., Sacramento ..	Dip. & \$5
CLASS X—MISCELLANEOUS.		
Best coloring varieties of wine grapes .....	Jos. Sims, Sacramento .....	\$2 00

## EIGHTH DEPARTMENT.

## FINE ARTS.

Exhibit.	Exhibitor.	Award.
CLASS I—OIL PAINTINGS, WATER COLORS, CRAYONS, AND PASTELS.		
Seven oil paintings .....	Henry Raschen, San Francisco .....	S. M. & \$25
Two oils and five pastels .....	Oscar Kunath, San Francisco .....	\$15 00
Nine oil paintings .....	Miss Josephine Bailey, San Fran. ..	20 00
Two oil paintings .....	Mrs. Wm. Hahn, San Francisco .....	5 00
Two oil paintings .....	Carl Von Perbandt, San Francisco ..	10 00
Four oil paintings .....	Thos. Hill, San Francisco .....	S. M. & \$30
Five oil paintings .....	Louise M. Carpenter, San Fran. ..	\$15 00
Two oils and water colors .....	L. P. Latimer, San Francisco .....	S. M. & \$15
Three oils and two water colors .....	J. H. E. Partington, San Francisco ..	\$20 00
Eight oils and one charcoal .....	G. Cadenasso, San Francisco .....	15 00
Five oil paintings .....	R. D. Yelland, San Francisco .....	S. M. & \$20
One oil painting .....	Orrin Peck, San Francisco .....	G. M. & 25
One oil painting .....	J. D. Strong, San Francisco .....	\$5 00
Four oil paintings .....	Wm. Hahn, San Francisco .....	15 00
Nine oil paintings .....	J. A. Stanton, San Francisco .....	35 00

## EIGHTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
Two oil paintings.....	Eva Withrow, San Francisco.....	\$15 00
Four oil paintings.....	Amadée Joullin, San Francisco.....	20 00
One oil painting.....	Mrs. M. Yonse, San Francisco.....	5 00
Four oil paintings.....	Miss K. Maher, San Francisco.....	5 00
One oil painting.....	Miss C. E. Bodwell, San Francisco.....	5 00
Two oil paintings.....	Miss Ellis Strong, San Francisco.....	10 00
Three oil paintings.....	G. Piazzone, San Francisco.....	10 00
One oil painting.....	Grace C. Hudson, San Francisco.....	10 00
Six oil paintings.....	F. L. Heath, Santa Cruz.....	20 00
Three oil paintings.....	Wm. Keith, San Francisco.....	20 00
Two oil paintings.....	A. Mathews, San Francisco.....	25 00
Four oil paintings.....	C. C. Judson, San Francisco.....	15 00
Two oil paintings.....	Mary W. Davison, San Francisco.....	10 00
Three oil paintings.....	Marien M. Frollich, San Fran.....	15 00
Two oil paintings and eleven water colors.....	John M. Gamble, San Francisco.....	20 00
Four oil paintings.....	Addie J. Ballou, San Francisco.....	5 00
Ten oil paintings.....	Estate of N. Bush, San Francisco.....	15 00
Eight oil paintings.....	Wm. Hubacek, San Francisco.....	S.M.& \$25
Two oil paintings.....	Evelyn McCormack, San Fran.....	5 00
One oil painting.....	Joseph Clery, San Francisco.....	5 00
One oil painting.....	F. Freer, Sacramento.....	5 00
Three oil paintings.....	Mrs. A. Chittenden, Sacramento.....	20 00
One oil painting.....	W. F. Jackson, Sacramento.....	10 00
One oil painting and four water colors.....	O. W. Emerson, San Francisco.....	10 00
One oil painting and one pastel.....	Miss E. Warren, San Francisco.....	10 00
Thirteen oil paintings.....	Mrs. M. E. Lyon, Sacramento.....	10 00
Seven oil paintings.....	Mrs. A. C. Herrick, Sacramento.....	10 00
Five oils, six pastels, and one crayon.....	Miss C. Vivian, San Francisco.....	S.M.& \$15
Two oil paintings.....	F. Schaffer, San Francisco.....	\$5 00
Seven oil paintings.....	Mrs. R. C. Chappie, Sacramento.....	5 00
Fourteen oil paintings.....	Mary A. Lewis, Sacramento.....	10 00
Three oil paintings.....	A. J. Wagner, San Francisco.....	5 00
Four water colors.....	Hugo Fisher, San Francisco.....	20 00
One oil painting and four water colors.....	Miss Lou Wall, San Francisco.....	15 00
Two water colors.....	M. C. de Urunuela, Oakland.....	5 00
Two water colors.....	R. L. Partington, San Francisco.....	5 00
Five water colors.....	Mrs. D. Neale Morgan, San Fran.....	5 00
Two water colors.....	Madame G. Hofer, San Francisco.....	10 00
Three oil paintings.....	Mrs. S. Tryon, Sacramento.....	5 00
Five oil paintings.....	Miss M. Hinkson, Sacramento.....	10 00
Eight oil paintings.....	Miss K. Mansfield, Sacramento.....	10 00
AMATEURS AND STUDENTS' GALLERY.		
Collection of water colors.....	Wallace Sawyer, Sacramento.....	5 00
Nine oil paintings.....	M. K. Irving, Sacramento.....	5 00
Five oil paintings.....	Miss J. Blanche, Sacramento.....	5 00
Four oil paintings.....	Mrs. Carrie Turrell, Sacramento.....	3 00
Two oil paintings.....	Mrs. J. L. Huber, Sacramento.....	3 00
Six oil paintings.....	Carrie M. Blowers, San Francisco.....	5 00
Nine oil paintings.....	Mrs. J. S. Renfro, Sacramento.....	5 00
Eight oil paintings.....	Miss J. Jost, Sacramento.....	3 00
Two oil paintings.....	Mrs. S. L. McCarthy, Sacramento.....	3 00
Eleven oil paintings.....	Mrs. W. H. Marshall, Sacramento.....	S.M.& \$10
Lead pencil drawings.....	Mrs. Adams, Sacramento.....	\$3 00
CLASS II—PHOTOGRAPHS.		
Display of photos.....	A. K. Varney, Sacramento.....	10 00
Display of photos.....	Keller & Dean, Sacramento.....	5 00
Display of photos (landscape).....	G. D. Stewart, Sacramento.....	Sil. Med.
Photographs.....	Niece Photo Chapter, Sacramento.....	\$5 00
CLASS III—PEN DRAWINGS, SKETCHES, ETC.		
For best display of pen drawing, India ink work, and penmanship.....	B. E. Kerr, Stockton.....	Dip. & \$5
Two pen and ink sketches.....	Carrie Blowers, San Francisco.....	\$10 00
Two pen and ink sketches.....	C. W. Thomas, San Francisco.....	5 00
One pen and ink sketch.....	C. E. Tebbs, San Francisco.....	S.M.& \$15
CLASS IV—STATUARY, ETC.		
Four busts.....	R. Schmidt, San Francisco.....	S.M.& \$10
One figure.....	Mrs. F. G. Vaux, San Francisco.....	\$5 00

## EIGHTH DEPARTMENT—Continued.

Exhibit.	Exhibitor.	Award.
CLASS V—PENMANSHIP.		
Display of penmanship, pen drawings, and typewriting.....	Sacramento Business College, Sac.	Sil. Med.
CLASS VI—JUVENILE.		
Best drawing by a minor.....	A. W. Campbell, Sacramento .....	\$5 00
CLASS VII—CALIFORNIA DRAWINGS AND DESIGNS.		
Best plan of city residence.....	A. W. Campbell, Sacramento .....	Sil. Med.

## DEPARTMENT GOLD MEDALS.

## FIRST DEPARTMENT.

To Burns & Waterhouse, for meritorious exhibit of thoroughbred horses.  
 To La Siesta Ranch, for meritorious exhibit of standard and roadster horses.  
 To A. Heilbron & Bro., for meritorious exhibit of Durham and Hereford cattle.

## SECOND DEPARTMENT.

To Baker & Hamilton, for meritorious exhibit of dairy machinery.

## THIRD DEPARTMENT.

To Mrs. Wm. Lyon, for meritorious exhibit of textile fabrics.

## FOURTH DEPARTMENT.

To Cook, Drew & Co., for meritorious exhibit, gas machine.

## FIFTH DEPARTMENT.

To Mrs. E. Shields, for meritorious exhibit of agricultural products.

## SIXTH DEPARTMENT.

To Robert Williamson, for meritorious exhibit, exclusive of county.

## SEVENTH DEPARTMENT.

To George West & Son, for meritorious exhibit of viticulture.

## EIGHTH DEPARTMENT.

To Orrin Peck, for meritorious exhibit in fine arts.

## SPECIAL GOLD MEDALS.

To Phil. M. Baier, for best lemon.  
 To Edward E. Goodrich, for meritorious exhibit of olive oil.  
 To I. H. Thomas, for meritorious exhibit of dried and preserved fruits.  
 To A. Meister & Sons, for meritorious exhibit of vehicles.

## SPECIAL SILVER MEDALS.

To Isaac Benyaker, for Egyptian embroideries.  
 To Emile Quarre, for fancy aluminum ware.  
 To Emile Quarre, for artistic bronzes.



## SPECIAL DIPLOMAS.

- To H. Chopard, for rock crystal jewelry.
- To M. Frey, for enameled jewelry.
- To L. Bourdais, for artistic metal lamps.
- To Isaac Benyaker, for Turkish museum.
- To Emile Quarre, for majolica ware.
- To Theodore Saling, for fancy fruit soap.
- To Theodore Saling, for Bohemian glassware and art pottery.
- To Otto Cytron, for cigar exhibit.
- To T. E. Canini, for artistic Italian wood carvings.
- To T. E. Canini, for mosaic jewelry.
- To E. M. Goggin, for bog oak carvings and Connemara marble jewelry.
- To Sol. Rosendorn, for Russian woodenware and papier-maché goods.
- To Sol. Rosendorn, for malachite jewelry and Russian novelties.
- To Polish Society of Painters of Warsaw and Cracow, Poland, for meritorious display of oil paintings.
- To G. A. Lanneau, for upholstery and decoration.
- To J. Toutriane, for raw material for laces and embroidery.
- To Daimeries Petit Jean, for real laces of Brussels.
- To A. Hirschman, for allumettes.
- To José Ferrando, for Spanish exhibit, State Fair, 1894.
- To Gomez é hyos, for pianos and musical instruments.

## SPEED PROGRAMME.

THURSDAY, SEPTEMBER 6, 1894.

### RACE No. 1—TROTTING.

The Occident Stake. A trotting stake for foals of 1891. Entries closed January 1, 1892. Entrance \$100, of which \$10 must accompany nomination; \$15 to be paid January 1, 1893; \$25 January 1, 1894, and \$50 thirty days before the race. The Occident Cup, of the value of \$400, to be added by the Society. First colt, cup and six tenths; second colt, three tenths; and third colt, one tenth of stake. Five to enter, three to start; otherwise National Trotting Association Rules to govern. Mile heats, three in five, to harness. Closed with thirty-four nominations. Total value of stake, \$920.

Name and Pedigree of Horse.	By Whom Entered.
Aria, b. f., by Bernal; dam, Ashby, by General Benton.....	Palo Alto Stock Farm, San Fran.
Silver Note, ch. c., by Silver Bow; dam, Maud Singleton, by Singleton .....	P. J. Williams, Milpitas.

#### SUMMARY.

Aria (Maben).....	1	1	1
Silver Note (Williams).....	2	2	2

*Time*—2:27¼; 2:29; 2:31½.

### RACE No. 2—PACING.

2:15 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Waldo J, g. g., by Bob Mason; dam, by A. W. Richmond.....	W. L. Hardison, Santa Paula.
Lady H, b. m., by Sidney; dam, Sultana, by Del Sur. Tom Ryder, br. g., by Alex. Button; dam, by Black Ralph.....	Los Cerritos Stock Farm, S. F.
Eric, b. g., by Elector; dam, Bonnie B, by Chieftain. Vidette, b. m., by Alex. Button; dam, Viola, by Flax Tail.....	R. H. Newton, Woodland.
Pomona, b. h., by Albion; dam, Pansy, by Re-echo. Fred Mason, b. g., by Bob Mason; dam, thoroughbred.....	George Gray, Haywards.
	G. W. Woodard, Yolo.
	M. Latin, Pomona.
	La Siesta Ranch, Menlo Park.

#### SUMMARY.

Waldo J (J. Mack).....	1	1	1
Lady H (Shaner).....	2	2	2
Tom Ryder (R. H. Newton).....	3	3	3
Eric (George Gray).....	6	5	4
Vidette (D. Bigelow).....	5	6	5
Pomona (Holcomb).....	7	7	6
Fred Mason (Lafferty).....	4	4	dis.

*Time*—2:14; 2:13¼; 2:15½.

## RACE NO. 3—TROTTING.

2:22 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Vina Belle, br. m., by Nephew; dam, Flushing Belle, by Dictator .....	Palo Alto Stock Farm, San Fran.
Gazelle, blk. f., by Gossiper; dam, by Booth .....	C. A. Durfee, Los Angeles.
Lustre, b. s., by Fallis; dam, Patti, by Nutwood .....	Geo. Gray, Haywards.
Rex, b. g., by Anteeo; dam, by Elmo .....	J. D. Carr, Salinas.
Mamie Griffin, blk. m., by Blackbird; dam, by Flying Morrell .....	P. Henshaw, Chico.

## SUMMARY.

Vina Belle (Maben) .....	2	2	1	1	1
Gazelle (Durfee) .....	1	1	2	2	2
Lustre (Gray) .....	3	3	4	4	r.o.
Rex (Fleming) .....	5	5	3	3	r.o.
Mamie Griffin (Sullivan) .....	4	4	5	5	r.o.

Time—2:16½; 2:19; 2:17; 2:25½; 2:21.

## SPECIAL TROTTING.

Roadster race. For horses that have been roaded on Riverside road this year up to August 25th. Purse, \$200. Entrance, \$20. Mile heats, best two in three.

Name and Pedigree of Horse.	By Whom Entered.
Pansy, ch. s., by Prompter; dam, by Blackburn .....	C. H. Cantrell, Sacramento.
Costello, b. s. ....	C. Z. Brockway, Sacramento.
Forest, blk. s., by Fallis; dam, by Ethan Allen .....	D. B. Clark, Sacramento.
Little Gus, br. s., by Gus Guerrero; dam, unknown .....	Geo. A. Gibbs, Sacramento.
Cloudy Wilson, b. m., by Prompter; dam, unknown .....	A. J. Wilson, Sacramento.

## SUMMARY.

Pansy (Cantrell) .....	1	1
Costello (Brockway) .....	5	2
Forest (Clark) .....	3	3
Little Gus (Gibbs) .....	2	dis.
Cloudy Wilson (Wilson) .....	4	dis.

Time—2:37¼; 2:34.



FRIDAY, SEPTEMBER 7, 1894.

## RACE No. 4—RUNNING.

The Sunny Slope Stake. A sweepstake for two-year-old fillies; of \$25 each; \$10 forfeit, with \$250 added; second to receive \$50 from stakes. Winner of one two-year-old stake race, when carrying weight for age, five pounds, and of two or more, seven pounds extra. Maidens allowed five pounds. Beaten maidens allowed for once, five pounds; twice, seven pounds; three times, ten pounds. Fillies beaten three times and not placed 1, 2, 3, allowed five pounds additional. Five furlongs. Total value of stake, \$500.

Name and Pedigree of Horse.	By Whom Entered.
Circe, b. f., by Friar Tuck; dam, Jessie C, by Bishop.	Hope Glen Stock Farm, Sta. Barbara.
Piquante, ch. f., by Flambeau; dam, Phœbe Anderson, by Monday	Cy. Mulkey, Napa.
Playful, ch. f., by Jim Brown; dam, imp. Fun, by Fiddler	Geo. Van Gordon, San José.
Lady Jane, br. f., by imp. Midlothian; dam, Aunt Jane, by Bazar	John Greer, Oakland.
Eulalia, ch. f., by Wildidle; dam, Edna K, by Thad Stevens	Rinconado Stable, Los Gatos.
Miss Ruth, b. f., by Sobrante; dam, Ruth, by Joe Daniels	H. A. Gochring, Red Bluff.
Cecil S, b. f., by Jim Brown; dam, Deception, by Tenbroeck	George Van Gordon, San José.
Zephyr, s. f., by El Rio Rey; dam, Blizzard, by Great Tom	El Tirano Stable, San Francisco.

## SUMMARY.

Circe (Jackson), 115	1
Piquante (Sullivan), 120	2
Playful (Piantoni), 110	3
Also ran: Eulalia (108), Miss Ruth (115), Cecil S (105), Zephyr (107), Lady Jane (115).	

Time—1:01¾.

## RACE No. 5—RUNNING.

A selling sweepstake. For three-year olds and upwards; of \$25 each; \$10 forfeit, with \$300 added, of which \$50 to second. The winner, if valued at \$1,500, to carry rule weight; one pound allowed for each \$100 less to \$1,000; then two pounds to \$500; then four pounds to \$100 Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Gracie S, by Prince of Norfolk; dam, Gilroy Belle.	J. Whitney, Stockton.
Conde, ch. c., by Duke of Norfolk; dam, May D, by Wildidle	O. Appleby, San José.
Abi P, ch. m., by Three Cheers; dam, Dairy Maid, by Shannon	Golden Gate Stable, Ignacio.
Happy Day, br. g., by Emperor; dam, Felicity, by Eclipse	M. J. Kelly, Sacramento.
Border Lassie, b. f., by imp. Cheviot; dam, Cosette, by Wildidle	Cy. Mulkey, Napa.
Chevalier, ch. c., by Joe Hooker; dam, Clara L, by imp. Thunderstorm	H. Jones, Sacramento.
Zaragoza, ch. c., by imp. Cheviot; dam, Bessie Hooker, by Joe Hooker	L. B. Gonzales, San Francisco.
Flush Ban, ch. f., by Major Ban; dam, Miss Flush, by Kyrle Daly	L. A. Blasingame, Fresno.
Inkerman, b. g., by Ironclad; dam, Alice, by Wheatley	Geo. Howson, Sacramento.
Garcia, b. g., by Wildidle; dam, Nighthawk, by Haddington	W. L. Appleby, San José.
Raphael, ch. g., by Duke of Norfolk; dam, Futurity, by John A	W. L. Appleby, San José.
Gladiator, b. g., by Grinstead; dam, Athola, by Glen Athol	Burns & Waterhouse, San Francisco.

## SUMMARY.

Gracie S (Smith), 104 .....	1
Conde (Spence), 111 .....	2
Abi P (Piantoni), 112 .....	3
Also ran: Border Lassie (90), Chevalier (101), Zaragoza (109), Flush Ban (94), Inkerman (103), Garcia (91), Raphael (92), Gladiator (99), Happy Day (107).	

Time—1:15¼.

## RACE No. 6—RUNNING.

Guaranteed purse, \$500. Handicap for all ages; of which \$75 to second; \$25 to third; entrance, \$25; \$10 to declare the night before the race. One mile and fifty yards.

Name and Pedigree of Horse.	By Whom Entered.
Lovdal, ch. c., by Wildidle; dam, True Love .....	Burns & Waterhouse, San Francisco.
Zobair, b. h., by St. Savior; dam, Nighthawk .....	Sycamore Stable, Sacramento.
Blizzard, br. s., by Trade Wind; dam, Trampo .....	Cy. Mulkey, Napa.
Arno, ch. c., by Cyclone; dam, Wanza .....	Jas. Raft, Sacramento.
Carmel, ch. c., by Duke of Norfolk; dam, Carmen, by Wildidle .....	Sycamore Stable, Sacramento.

## SUMMARY.

Lovdal (Combs), 105 .....	1
Zobair (R. Narvaez), 116 .....	2
Blizzard (Sullivan), 120 .....	3

Also ran: Carmel (100) and Arno (85).

Time—1:45½.

## RACE No. 7—RUNNING.

Guaranteed purse, \$500. Handicap for all ages; of which \$75 to second; \$25 to third. Entrance, \$25, or only \$10 if declared. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Cadmus, br. h., by Flood; dam, imp. Cornelia .....	Cy. Mulkey, Napa.
Quirt, ch. f., by Joe Hooker; dam, Trifle .....	Q. T. Darling, San Francisco.
Emma D, rn. m., by Jack Brady; dam, unknown .....	R. Sherwin, Lodi.
Royal Flush, ch. s., by Three Cheers; dam, Rosette .....	George Howson, Sacramento.
Pescador, b. h., by Gano; dam, Ameda Howard .....	D. R. Dickey, San Diego.
Quarterstaff, br. h., by imp. Friar Tuck; dam, Sis- ter to Ruth Ryan .....	Burns & Waterhouse, San Francisco.
Huntsman, b. h., by Prince of Norfolk; dam, Haidee .....	Thomas Boyle, Sacramento.
Warrago, b. m., by Warwick; dam, Fedalma, by Wheatley .....	Garden City Stable, San José.
Alaric, b. c., by Fellowcharm; dam, Wisban .....	A. Heilbron & Bro., Sacramento.

## SUMMARY.

Cadmus (Sullivan), 122 .....	1
Quirt (Welch), 100 .....	2
Emma D (Holmes), 110 .....	3

Also ran: Pescador (118), Quarterstaff (108), Huntsman (95), Warrago (95), Alaric (90), and Royal Flush (120).

Time—1:15.

## RACE No. 8—RUNNING.

Selling purse, \$250. For two-year-olds; of which \$50 to second and \$25 to third; entrance, \$20; \$10 if declared night before the race. Fixed value, \$1,500; one pound off for each \$100 down to \$1,000, then two pounds to \$500, then three pounds down to \$100. Five and one half furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Niagara, ch. c., by Jim Brown; dam, Evalita .....	R. D. Ledgett, San Francisco.
Laurel, b. m., by Duke of Norfolk; dam, Futurity .....	W. L. Appleby, San José.
El Tirano, ch. g., by Tyrant; dam, May Dunbar .....	R. J. Havey, Sacramento.
Little Flush Colt, b. c., by Alexander; dam, Little Flush .....	H. Jones, Sacramento.

## SUMMARY.

Niagara (Ledgett), 105.....	1
Laurel (Coady), 100.....	2
El Tirano (Burns), 101.....	3
Little Flush Colt (Kinnie), 97.....	4

Time—1:09½.

## SATURDAY, SEPTEMBER 8, 1894.

## RACE No. 9—TROTTING.

Two-year-old stake. 2:40 Class. Closed March 15th, with twenty-six nominations; \$50 entrance, of which \$10 must accompany nomination; \$15 payable July 1, and the remaining \$25 payable August 10, 1894. \$300 added by the Society. Mile heats. Total value of stake, \$945.

Name and Pedigree of Horse.	By Whom Entered.
La Belle, ch. f., by Sidney; dam, Anna Bell.....	M. S. Severance, Los Angeles.
Jasper Ayers, b. g., by Iris; dam, Babe, by Altamont .....	H. P. Perkins, Visalia.
Last Chance, b. g., by Royal Wilkes; dam, Hannah Price, by Arthurton .....	San Mateo Stock Farm, San Mateo.
Derby Princess, blk. m., by Chas. Derby; dam, Prin- cess, by Administrator.....	Oakwood Park Stock Farm, Danville.

## SUMMARY.

La Belle (Maben).....	1	1
Jasper Ayers (Ayers).....	2	2
Last Chance (Rodgers).....	3	3
Derby Princess (Sanders).....	4	dis.

Time—2:25¼; 2:25.

## RACE No. 10—TROTTING.

2:16 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Aster, ch. g., by Dexter Prince.....	Keating & Ottinger, San Francisco.
Marin, Jr., gr. g., by Marin; dam, Silver, by Silver Threads .....	J. R. Carroll, San Francisco.
Bruno, b. s., by Junio; dam, Dolly, by Mozart.....	C. Z. Hebert, Salinas.
She, b. m., by Abbotsford; dam, Beauty, by Ethan Allen .....	Chris. W. Smith, San Francisco.
Shylock, ch. g., by Tom Benton; dam, Brown Jen- nie, by Dave Hill, Jr. ....	J. A. Dustin, San Francisco.
Adelaide McGregor, b. m., by Bonnie McGregor; dam, Adelaide, by Milwaukee.....	K. D. Wise, Los Angeles.



## SUMMARY.

Aster (Keating) .....	1	1	1
Marin, Jr. (Farrell) .....	2	2	6
Bruno (Duwan) .....	3	4	2
She (Alviso) .....	6	3	3
Shylock (Dustin) .....	4	5	4
Adelaide McGregor (Pattison) .....	5	6	5

Time—2:14¾; 2:12; 2:14.

## RACE No. 11—TROTTING.

2:27 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Abanteo, b. m., by Anteo; dam, Abbotine, by Abbottsford .....	Oakwood Park Stock Farm, Danville.
Auntie Wilkes, b. m., by Guy Wilkes; dam, by Speculation .....	Paris Kilburn, San Francisco.
Deborah, b. m., by Sable Wilkes; dam, Sproule, by Le Grande .....	San Mateo Stock Farm, San Mateo.
Senator L, b. s., by Dexter Prince; dam, Lady Bayswater, by Bayswater .....	A. B. Spreckels, San Francisco.

## SUMMARY.

Abanteo (Sanders) .....	1	1	1
Auntie Wilkes (Duwan) .....	2	2	3
Deborah (Rodgers) .....	3	3	2
Senator L (Dustin) .....	4	4	4

Time—2:25; 2:21½; 2:23¼.

## MONDAY, SEPTEMBER 10, 1894.

## RACE No. 12—RUNNING.

The California Annual Stake. A sweepstake for two-year-olds; of \$25 each; \$10 forfeit, with \$300 added; second to receive \$50. Winners of two-year-old stake race, when carrying weight for age, to carry five pounds extra for once, and seven pounds for twice or more. Allowances: maidens, five pounds; beaten maidens, five pounds for once, seven pounds for twice, ten pounds for three times or more. Those beaten three times and not placed 1, 2, 3, allowed additional five pounds. Six furlongs. Value of stake, \$620.

Name and Pedigree of Horse.	By Whom Entered.
Flashlight, b. c., by Surinam; dam, Laura Winston, by Norfolk .....	W. M. Murry, Sacramento.
Gallant, b. g., by Fellowcharm; dam, Jennie Belshaw, by Wildidle .....	Cy. Mulkey, Napa.
Ike L, ch. c., by Major Ban; dam, Miss Flush, by Kyrle Daly .....	Garden City Stable, San José.
Malo Diablo, ch. c., by Joe Hooker; dam, Ogzilla, by Norfolk .....	El Tirano Stable, San Francisco.
Alarie, b. c., by Fellowcharm; dam, Wisban, by imp. King Ban .....	L. Heilbron, Wild Flower.
Charea, b. c., by imp. Brutus; dam, Lady R, by Wildidle .....	J. Reavey, San José.
Rey Alfonso, b. c., by Prince of Norfolk; dam Haidee, by King Alfonso .....	L. G. Gonzales, San Francisco.

## SUMMARY.

Flashlight (Spence), 118 .....	1
Gallant (Sullivan), 118 .....	2
Ike L (Donathan), 103 .....	3
Also ran: Alaric (113), Charea (108), Rey Alfonso (118), Malo Diablo (118).	
Time—1:15.	

## RACE No. 13—RUNNING.

The Capital City Stake. A handicap sweepstake for three-year-olds; of \$50 each; half forfeit, or \$15 if declared, with \$400 added; of which \$100 to second, third to save stake. One and one sixteenth miles. Value of stake, \$875.

Name and Pedigree of Horse.	By Whom Entered.
Lovdal, ch. c., by Wildidle; dam, Free Love, by Luke Blackburn .....	Burns & Waterhouse, San Francisco.
Articus, b. c., by Argyle; dam, Glenlock, by Flood .....	Geo. Van Gordon, San José.
Polaski, b. g., by Captain Al; dam, Gold Cup, by Enquirer .....	Geo. Howson, Sacramento.
Alexis, b. c., by Argyle; dam, Frisa, by Flood .....	Garden City Stable, San José.
Carmel, ch. c., by Duke of Norfolk; dam, Carmen, by Wildidle .....	G. L. Don, San José.
Gilead, b. c., by St. Savior; dam, Mistake, by Wildidle .....	Wilbur F. Smith, Sacramento.

## SUMMARY.

Lovdal (Combs), 114 .....	1
Articus (Piantoni), 118 .....	2
Polaski (Burns), 95 .....	3
Also ran: Gilead (115), Alexis (95), and Carmel (98).	
Time—1:48 $\frac{1}{4}$ .	

## RACE No. 14—RUNNING.

Guaranteed purse, \$500. Handicap for all ages; of which \$75 to second; \$25 to third; entrance \$25, or \$10 if declared. One mile.

Name and Pedigree of Horse.	By Whom Entered.
Pescador, b. s., by Gano; dam, Ameda Howard .....	D. R. Dickey, San Francisco.
Royal Flush, ch. s., by Three Cheers; dam, Rosette .....	Geo. Howson, Sacramento.
Zobair, b. h., by St. Savior; dam, Nighthawk .....	Sycamore Stable, Sacramento.
Garcia, br. g., by Wildidle; dam, Nighthawk .....	W. L. Appleby, San José.
Duke Stevens, ch. s., by Duke of Norfolk; dam, Edna K .....	J. E. Abbott, San Francisco.

## SUMMARY.

Pescador (Long), 110 .....	1
Royal Flush (Dodd), 114 .....	2
Zobair (Sullivan), 115 .....	3
Also ran: Duke Stevens (110) and Garcia (95).	
Time—1:41 $\frac{3}{4}$ .	

## RACE No. 15—RUNNING.

Selling purse, \$500. For three-year-olds and upwards; guaranteed purse of \$500, of which \$75 to second, \$25 to third. Entrance \$25, or \$10 if declared by 5 p. m. day before race. Fixed value, \$2,000; one pound off for each \$100 to \$1,000; then two pounds to \$500; then three pounds to \$100. Horses entered not to be sold, to carry five pounds extra. Seven and one half furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Happy Day, br. h., by Emperor; dam, Felicity .....	M. J. Kelly, Sacramento.
Abi P, ch. m., by Three Cheers; dam, by Shannon .....	G. Pacheco, San José.
Blizzard, br. h., by Trade Wind; dam, Trampo .....	Cy. Mulkey, Napa.
Gold Dust, b. g., by Oro; dam, Gold Cup .....	Geo. Howson, Sacramento.
Quarterstaff, br. h., by imp. Friar Tuck; dam, Sister to Ruth Ryan .....	Burns & Waterhouse, San Francisco.
Raphael, ch. g., by Duke of Norfolk; dam, Futurity .....	W. L. Appleby, Santa Clara.

## SUMMARY.

Happy Day (Combs), 102 .....	1
Abi P (Glover), 109 .....	2
Blizzard (Sullivan), 122 .....	3

Also ran: Quarterstaff (102), Raphael (90), and Gold Dust (93).

Time—1:36.

## RACE No. 16—RUNNING.

Maiden purse, \$250. For maidens of all ages. Entrance \$20, or \$10 if declared by 5 p. m. night before. Second horse to receive \$50; third, \$25. Beaten maidens allowed, if two years old, five pounds; if three years old, ten pounds; if four years old and upwards, fifteen pounds. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Adelante, b. c., by El Rio Rey; dam, Ogalena Hooker .....	S. H. Cooper, San Francisco.
Headflower, br. f., by Flood; dam, imp. Rosette .....	Cy. Mulkey, Napa.
Laurel, b. f., by Duke of Norfolk; dam, Futurity .....	W. L. Appleby, San José.
Eulalia, ch. f., by Wildidle; dam, Edna K .....	J. E. Abbott, San Francisco.
Lily Ayers, b. f., by Billy Ayres; dam, by Bazar .....	Thomas Boyle, Sacramento.
Cynor, b. g., by Cyclone; dam, imp. Partisana .....	D. Dennison, Sacramento.

## SUMMARY.

Adelante (Burns), 86 .....	1
Headflower (Kinne), 88 .....	2
Laurel (Coady), 83 .....	3

Also ran: Lily Ayers (104), Cynor (106), and Eulalia (83).

Time—1:15½.



TUESDAY, SEPTEMBER 11, 1894.

## RACE No. 17—TROTTING.

Three-year-old stake. 2:25 Class. Closed March 15th, with twenty nominations. \$100 entrance, of which \$25 must accompany nomination; \$25 payable July 1st, and the remaining \$50 payable August 10, 1894. \$400 added by the Society. Mile heats, best three in five. Total value of stake, \$1,650.

Name and Pedigree of Horse.	By Whom Entered.
Aria, b. f., by Bernal; dam, Ashby, by Gen. Benton.	Palo Alto Stock Farm, San Francisco.
Visalia, b. f., by Iris; dam, Scratch, by son of Sultan.	H. P. Perkins, Visalia.
Bet Madison, br. f., by James Madison; dam, Betsy Trotwood.	M. S. Severance, Los Angeles.
John Bury, b. c., by Antinous; dam, Muldoon, by George M. Patchen, Jr.	Vendome Stock Farm, San José.
Ravenscroft, b. c., by Guy Wilkes; dam, Eva, by Le Grande.	San Mateo Stock Farm, San Mateo.
McZeas, —, by McKinney; dam, Grace Kaiser, by Kaiser.	J. W. Gardner, Los Angeles.

## SUMMARY.

Aria (Dustin).....	2	1	1	1
Visalia (Perkins).....	1	2	2	2
Bet Madison (Maben).....	3	3	4	4
John Bury (Bunch).....	4	4	3	3
Ravenscroft (J. Rodgers).....	5	5	5	5
McZeas (Durfee).....	6	dis.		

Time—2:20; 2:17½; 2:18¾; 2:21½.

## RACE No. 18—PACING.

2:20 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Cibolo, b. s., by Chas. Derby; dam, Addie Ash, by Indianapolis.	Oakwood Park Stock Farm, Danville.
Sidmoor, b. s., by Sidney; dam, by The Grand Moor.	Los Cerritos Stock Farm, San Fran.
Touchet, b. s., by Altamont; dam, Tecora, by C. M. Clay, Jr.	Sam Castro, San Francisco.
Golden West, b. g., by Royal George; dam, Jane, by Old Togue.	J. M. Nelson, Sacramento.
Belle, ch. m., by Melbourne King; dam, Mattie.	Wm. M. Sinclair, Chico.
Andy, blk. g., by Dashwood.	W. S. Maben, Los Angeles.
Klickitat Maid, b. m., by Altamont; dam, by Capt. Slinger, Jr.	Delano Bros., Rocklin.
Olinda Richmond, b. h., by A. W. Richmond; dam, by Ulster Chief.	W. H. Bailey, San Francisco.
Our Boy, by Vernon Boy; dam, by Wapsie.	Vendome Stock Farm, San José.

## SUMMARY.

Cibolo (Sanders).....	6	7	1	1	1
Sidmoor (Shannon).....	7	1	2	2	2
Touchet (Sawyer).....	1	3	6	4	3
Golden West (Nelson).....	2	2	7	7	r. o.
Belle (Sullivan).....	8	5	3	3	r. o.
Andy (Maben).....	3	6	8	8	r. o.
Klickitat Maid (Delano).....	4	4	4	6	r. o.
Olinda Richmond (Holmes).....	5	8	5	5	r. o.
Our Boy (Bunch).....	dis.				

Time—2:16½; 2:17¾; 2:19; 2:19; 2:23¾.

## RACE NO. 19--TROTTING.

2:24 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Elisa, b. m., by Alcantara, Jr.; dam, Katalina, by Friday McCracken	Hazel Villa Stock Farm, Marysville.
Chloe, blk. m., by Dexter Prince; dam, by Hawthorne	A. B. Spreckels, San Francisco.
Pearl Fisher, b. m., by Altamont; dam, by Kisber.	Sam Castro, San Francisco.
Abanteo, b. m., by Anteeo; dam, Abbotine, by Abbottsford	Oakwood Park Stock Farm, San Fran.
Chico, b. h., by Monroe Chief; dam, Orphan Girl.	Park Henshaw, Chico.
Lynmont, b. s., by Almont Medium; dam, by Almont (33)	William Hogoboom, Marysville.
Emin Bey, b. s., by Guy Wilkes; dam, Tempest, by Sultan	K. D. Wise, Los Angeles.

## SUMMARY.

Elisa (Mercer)	5	5	2	1	3	1	1
Chloe (Dustin)	3	1	1	2	2	2	3
Pearl Fisher (Sawyer)	1	2	3	4	1	3	2
Abanteo (Sanders)	2	6	5	5	r. o.		
Chico	4	4	4	3	r. o.		
Lynmont	6	3	6	dis.			
Emin Bey				dis.			

Time—2:20¼; 2:19¾; 2:21; 2:19; 2:23¾; 2:23; 2:25.

## WEDNESDAY, SEPTEMBER 12, 1894.

## RACE NO. 20—RUNNING.

The Autumn Handicap. For two-year-olds. A sweepstake of \$30 each; half forfeit, or \$10 if declared; with \$350 added; second to receive \$75. Six furlongs. Total value, \$730.

Name and Pedigree of Horse.	By Whom Entered.
Piquante, ch. f., by Flambeau; dam, Phœbe Anderson, by Monday	Cy. Mulkey, Napa.
Rey Alfonso, b. c., by Prince of Norfolk; dam, Haidee, by King Alfonso	L. G. Gonzales, Sacramento.
Cecil S, b. f., by Jim Brown; dam, Deception, by Tenbroeck	Geo. Van Gordon, San José.
Malo Diablo, ch. c., by Joe Hooker; dam, Ogzilla, by Norfolk	R. J. Havey, Sacramento.
Ike L, ch. c., by Major Ban; dam, Miss Flush, by Kyle Daly	Garden City Stable, San José.
Chas. Quick, b. c., by Prince of Norfolk; dam, Eda, by Powhattan	Thomas Boyle, Sacramento.
Flirtilla, b. f., by Peel; dam, Faustine, by Flood	O. Appleby, San José.

## SUMMARY.

Piquante (Sullivan), 112	1
Rey Alfonso (Peters), 120	2
Cecil S (Combs), 100	3

Also ran: Malo Diablo (106), Ike L (102), Chas. Quick (100), Flirtilla (95).

Time—1:16.

## RACE No. 21—RUNNING.

Substitute. Free purse, \$250. One and one sixteenth miles.

Name and Pedigree of Horse.	By Whom Entered.
Blizzard, br. h., by Trade Wind; dam, Trampo .....	A. B. Spreckels, San Francisco.
Happy Day, br. h., by Emperor; dam, Felicity .....	M. J. Kelly, Sacramento.
Royal Flush, ch. c., by Three Cheers; dam, Rosette .....	Geo. Howson, Sacramento.

## SUMMARY.

Blizzard (Sullivan), 110 .....	1
Happy Day (Combs), 108 .....	2
Royal Flush (Dodd), 112 .....	3

Time—1:48½.

## RACE No. 22—RUNNING.

Selling purse, \$500. For three-year-olds and upwards; guaranteed purse of \$500; of which \$75 to second and \$25 to third; entrance, \$25, or \$10 if declared night before by 5 o'clock. Fixed value, \$1,500. One pound off for each \$100 down to \$1,000; then two pounds to \$600; then three pounds to \$300; then four pounds to \$100. Horses entered not to be sold, to carry seven pounds over rule weights. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Abi P, ch. m., by Three Cheers; dam, Dairy Maid .....	Golden Gate Stable, San José.
Quarterstaff, br. h., by Friar Tuck; dam, Sister to Ruth Ryan .....	Burns & Waterhouse, San Francisco.
Emma D, rn. m., by Jack Brady .....	R. Sherwin, Lodi.
Garcia, b. g., by Wildidle; dam, Nighthawk .....	Henry Schwartz, San Francisco.
Conde, ch. c., by Duke of Norfolk; dam, May D .....	O. Appleby, San José.
Banjo, ch. g., by Peregrine; dam, by Foster .....	Thos. Boyle, Sacramento.

## SUMMARY.

Abi P (Sullivan), 108 .....	1
Quarterstaff (Combs), 100 .....	2
Emma D (Smith), 104 .....	3

Also ran: Garcia (100), Conde (115), Banjo (100).

Time—1:15½.

## RACE No. 23—RUNNING.

The Del Mar Stake. For three-year-olds and upwards; of \$25 each; \$15 forfeit; with \$300 added; \$50 to second, from stake. This stake to be named after winner, if Del Mar's time (1:41½) is beaten, with \$200 additional in money, cup, or plate. One mile. Total value of stake, \$580.

Name and Pedigree of Horse.	By Whom Entered.
Loydal, ch. c., by Wildidle; dam, Free Love, by Luke Blackburn .....	A. J. Stemlar, Sacramento.
Articus, b. c., by Argyle; dam, Glenlock, by Flood .....	Geo. Van Gordon, San José.
Charles A, blk. c., by John A; dam, Early Rose, by Duke of Montrose .....	C. A. Brown, San Francisco.
Duke Stevens, ch. h., by Duke of Norfolk; dam, Edna K, by Thad Stevens .....	Rinconado Stable, Los Gatos.



## SUMMARY.

Lovdal (Combs), 112 .....	1
Articus (Spence), 112 .....	2
Charles A (Seaman), 112 .....	3

Also ran: Duke Stevens (122).

Time—1:42½.

## RACE No. 24—RUNNING.

Selling purse, \$500. For two- and three-year-olds; of which \$75 to second; \$25 to third; entrance, \$25, or \$10 if declared by 5 p. m. night before. Top weight for three-year-olds, 122; for two-year-olds, 112; sex allowances. Fixed value, \$1,500; two pounds allowed for each \$100 down to \$1,000; then three pounds to \$500; then four pounds to \$100. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Charea, b. c., by imp. Brutus; dam, Lady R .....	J. Reavy, San José.
Huntsman, b. h., by Prince of Norfolk; dam, Haidee .....	Thos. Boyle, Sacramento.
Lady Jane, br. f., by imp. Midlothian; dam, Aunt Jane .....	Golden Gate Stable, San José.
Miss Ruth, b. f., by Sobrante; dam, Ruth .....	H. A. Goehring, Red Bluff.
Niagara, ch. g., by Jim Brown; dam, Evalita .....	R. D. Ledgett, San Francisco.
Polaski, b. g., by Captain Al; dam, Gold Cup .....	Geo. Howson, Sacramento.
Border Lassie, b. f., by imp. Cheviot; dam, Cosette .....	A. B. Spreckels, San Francisco.

## SUMMARY.

Charea (Coady), 83 .....	1
Huntsman (Narvaez), 89 .....	2
Lady Jane (Burns), 84 .....	3

Also ran: Miss Ruth (93), Niagara (87), Polaski (93), Border Lassie (94).

No time was taken, through a misunderstanding between starter and jockeys. Several horses pulled up; the course was run by the first three placed only, and race decided accordingly. All bets were declared off.

## THURSDAY, SEPTEMBER 13, 1894.

## RACE No. 25—PACING.

Two-year-old Pacing Stake. 2:25 Class. \$50 entrance, of which \$10 must accompany nomination; \$15 payable July 1st, and the remaining \$25 payable August 10th. \$300 added by the Society. Closed March 15th, with seven nominations. Total value of stake, \$545.

Name and Pedigree of Horse.	By Whom Entered.
W. W. Foote, br. c., by Steinway; dam, Maggie McGregor, by Robert McGregor .....	Oakwood Park Stock Farm, Danville.
Lou Lane, b. f., by Cœur D'Alene; dam, Beulah, by Altamont .....	S. W. Aldrich, Portland.
Cecelia, br. f., by Iris; dam, Scratch, by Son of Sultan .....	H. P. Perkins, Visalia.

## SUMMARY.

W. W. Foote (Sanders) .....	1	1
Lou Lane (Sawyer) .....	2	3
Cecelia (Perkins) .....	3	2

Time—2:18½; 2:19.

## RACE No. 26—PACING.

W. Wood against time, 2:08½.

Name and Pedigree of Horse.	By Whom Entered.
W. Wood, b. h., by Steinway; dam, Ramona, by Anteo.....	Oakwood Park Stock Farm, Danville.

SUMMARY.	
Time .....	1
W. Wood (Sanders) .....	2
Time—2:08¾.	

## RACE No. 27—TROTTING.

2:20 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Manning, b. g., by Messenger Chief; dam, Jewell, by Vermont.....	J. H. Butler.
Moses S, b. s., by Hawthorne; dam, Ryan mare.....	W. A. Shippee, Avon.
Regina, b. m., by Electioneer; dam, Accident, by Elmo.....	M. S. Severance, Los Angeles.
Hillsdale, b. h., by Antinous; dam, Nettie Nutwood, by Nutwood.....	Vendome Stock Farm, San José.
Bay Rum, b. s., by Seven Oaks; dam, by Quien Sabe.....	J. D. Carr, Salinas.
Myrtle Thorne, blk. m., by Grandissimo; dam, Belle Thorne, by Whippleton.....	F. W. Loeber, St. Helena.
Boodle, br. s., by Stranger; dam, Bride, by Jay Gould.....	F. F. Hostetter, San José.

SUMMARY.	
Manning (Sullivan).....	1 1 4 3 2 1
Moses S (Grant).....	7 7 6 1 1 2
Regina (Maben).....	2 2 1 7 3 3
Hillsdale (Bunch).....	4 5 2 2 r.o.
Bay Rum (Duwan).....	6 3 3 6 r.o.
Myrtle Thorne (Loeber).....	3 4 5 5 r.o.
Boodle (Van Bokklen).....	5 6 7 4 r.o.

Time—2:18¼; 2:21; 2:18½; 2:21; 2:23; 2:24½.

## RACE No. 28—TROTTING.

2:30 Class. Purse, \$800. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Electra, br. m., by Electro; dam, Moore Maid.....	Santa Rosa Stock Farm, Santa Rosa.
Palermo, b. h., by Berlin; dam, unknown.....	Jas. Lynden, Chico.
Tietam, b. s., by Anteo; dam, Evaline, by Nutwood.....	I. De Turk, Santa Rosa.
Rockwood, br. g., by Treetwood; dam, Flora.....	Geo. B. Polhemus, San José.
Rossie Moore, by Ross S; dam, by Pedro.....	Myers & Myers, Oakland.

SUMMARY.	
Electra (Dustin).....	1 1 1
Palermo (Lynden).....	2 3 2
Tietam (Locke).....	5 2 3
Rockwood (Hallinan).....	3 5 4
Rossie Moore (Sullivan).....	4 4 5

Time—2:23; 2:18¾; 2:20.

FRIDAY, SEPTEMBER 14, 1894.

## RACE No. 29—RUNNING.

Selling purse, \$300. For three-year-olds and upwards. Entrance, \$25, or \$10 if declared; \$50 to second, \$25 to third. Fixed value, \$1,000; three pounds allowed for each \$100 to \$500, then five pounds to \$100. Winner of one selling race at this meeting to carry five pounds; of two, seven pounds extra. Seven and one half furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Abi P, ch. m., by Three Cheers; dam, Dairy Maid	Golden Gate Stable, Ignacio.
Garcia, b. g., by Wildidle; dam, Nighthawk	H. Schwartz, San Francisco.
Quarterstaff, br. h., by Friar Tuck; dam, Sister to Ruth Ryan	Burns & Waterhouse, San Francisco.

## SUMMARY.

Abi P (Sullivan), 115	1
Garcia (Hazlett), 97	2
Quarterstaff (Combs), 102	3

Time—1:35½.

## RACE No. 30—RUNNING.

The Rosemeade Stake. A handicap for all ages; of \$25 each, or \$10 if declared; with \$300 added; \$50 to second, and \$25 to third. Six furlongs. Total value of stake, \$495.

Name and Pedigree of Horse.	By Whom Entered.
Blizzard, br. h., by Trade Wind; dam, Trampo	A. B. Spreckels, San Francisco.
Royal Flush, ch. h., by Three Cheers; dam, Rosette	George Howson, Sacramento.
Motto, ch. m., by Sir Modred; dam, Mottle	George Van Gordon, San José.
Romair, b. h., by Argyle; dam, imp. Rosette	D. J. McCarty, Sacramento.
Manfred, ch. g., by Glen Elm; dam, by Patsy Duffy	Williams & Morehouse, Milpitas.

## SUMMARY.

Blizzard (Sullivan), 118	1
Royal Flush (Hazlett), 110	2
Motto (Cuddy), 107	3

Also ran: Romair (108), Manfred (90).

Time—1:15.

## RACE No. 31—RUNNING.

The Fall Stake. A handicap sweepstake for three-year-olds and upwards; of \$50 each; half forfeit, or \$15 if declared; with \$400 added; of which \$100 to second; third to save stake. One and one quarter miles. Total value of stake, \$720.

Name and Pedigree of Horse.	By Whom Entered.
Cadmus, br. h., by Flood; dam, imp. Cornelia, by Isonomy	Cy. Mulkey, Napa.
Gilead, b. c., by St. Savior; dam, Mistake, by Wildidle	Sycamore Stable, Sacramento.
Happy Day, br. g., by Emperor; dam, Felicity, by Eclipse	M. J. Kelly, Sacramento.
Alexis, b. c., by Argyle; dam, Frisa, by Flood	Garden City Stable, San José.
Carmel, ch. c., by Duke of Norfolk; dam, Carmen, by Wildidle	W. L. Appleby, San José.



## SUMMARY.

Cadmus (Sullivan), 123 .....	1
Gilead (Combs), 102 .....	2
Happy Day (Murphy), 108 .....	3

Also ran: Alexis (90), Carmel (95).

Time—2:08½.

## RACE No. 32—RUNNING.

Hurdle race. Purse, \$250. Of which \$50 to second. Handicap over four hurdles. Entrance \$10, to go to the winner. Declaration free. One and one eighth miles.

Name and Pedigree of Horse.	By Whom Entered.
Dave Douglass, b. g., by Leinster; dam, Lily Simpson .....	D. Dennison, Sacramento.
Albatross, b. g., by Pill Box; dam, Della Walker .....	D. Morgan, Grass Valley.
Guadaloupe, ch. g., by Grinstead; dam, Josie C .....	D. J. McCarty, Sacramento.
Garnett, ch. g., by Big Sandy; dam, by Lexington .....	J. M. Cooper, Woodland.
Morton, ch. g., by Leinster; dam, Lily H .....	E. J. Appleby, San José.
First Lap, b. h., by Lelaps; dam, Monetta .....	F. Minor, Sacramento.

## SUMMARY.

Dave Douglass (Dennison), 130 .....	1
Albatross (Galindas), 140 .....	2
Guadaloupe (Sands), 145 .....	3

Also ran: Garnett (135), Morton (130), First Lap (140).

Time—2:06.

## RACE No. 33—RUNNING.

Free purse, \$250. For beaten horses at this meeting; of which \$50 to second. If two-year-olds, two pounds allowed for each time beaten; if three-year-olds, three pounds for each time; if four-year-olds and upwards, six pounds for each time. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Royal Flush, ch. h., by Three Cheers; dam, Rosette .....	Geo. Howson, Sacramento.
Zobair, b. h., by St. Savior; dam, Nighthawk .....	Sycamore Stable, Sacramento.
Conde, ch. h., by Duke of Norfolk; dam, May D .....	O. Appleby, San José.
Arno, ch. c., by Cyclone; dam, Wanza .....	James Raft, San José.
Chevalier, ch. c., by Joe Hooker; dam, Clara L .....	H. Jones, Sacramento.
Duke Stevens, ch. h., by Duke of Norfolk; dam, Edna K .....	Kennedy Bros., San José.
Huntsman, b. h., by Prince of Norfolk; dam, Haidee .....	Thos. Boyle, Sacramento.
Charles A, blk. g., by John A; dam, Early Rose .....	H. D. Brown, San Francisco.
Polaski, b. g., by Captain Al; dam, Gold Cup .....	George Howson, Sacramento.

## SUMMARY.

Royal Flush (Hazlett), 104 .....	1
Zobair (Peters), 110 .....	2
Conde (McAuliffe), 110 .....	3

Also ran: Arno (89), Chevalier (113), Duke Stevens (110), Huntsman (110), Charles A (113), Polaski (110).

Time—1:15¾.

SATURDAY, SEPTEMBER 15, 1894.

## RACE No. 34—TROTTING.

Free for all. Purse, \$1,200. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Ottinger, br. g., by Dorsey's Nephew; dam, unknown	Keating & Ottinger, San Francisco.
Klamath, b. g., by Moorookus; dam, Lady Ophir, by Ophir	T. W. Raymond, Walla Walla.
Altao, b. h., by Altamont; dam, Sallie M, by Oregon Pathfinder	P. J. Mann, Portland.
Dan Velox, br. g., by Black Prince; dam, unknown	P. McEvoy, San Francisco.

## SUMMARY.

Ottinger (Keating)	1	1	1
Klamath (Raymond and Maben)	2	2	2
Altao (Lindsey)	3	4	3
Dan Velox (McEvoy)	4	3	4

Time—2:16; 2:13; 2:13.

## RACE No. 35—PACING.

2:25 Class. Purse, \$600. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Waldo J, gr. g., by Bob Mason; dam, by Richmond	W. L. Hardison, Santa Paula.
Ketchum, b. s., by Gossiper; dam, by Echo	C. A. Durfee, Los Angeles.
Eagle, b. c., by War Eagle; dam, Grace, by Bucaneer	C. A. Owen, Fresno.

## SUMMARY.

Waldo J (Mack)	1	1	1
Ketchum (Durfee)	2	2	2
Eagle (Owen)	3	3	3

Time—2:20½; 2:14½; 2:14.

## RACE No. 36—PACING.

Three-year-old pacing stake. 2:20 Class. \$100 entrance, of which \$25 must accompany nomination; \$25 payable July 1st, and the remaining \$50 payable August 10th. \$400 added by the Society. Closed March 15th, with five nominations.

Name and Pedigree of Horse.	By Whom Entered.
Prince Nutwood, blk. c., by Dexter Prince; dam, Luella, by Nutwood	B. F. Langford, Lodi.

## SUMMARY.

Prince Nutwood (Haney)	W. O.
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Time—2:21¾.

## RACE No. 37—TROTTING.

California State Fair Futurity Stake. Three-year-old division; guaranteed value, \$5,000; winner to receive \$3,000; the second, \$1,250; the third, \$500; and \$250 to the nominator of the dam of the winner; \$100 additional to be paid by 6 P. M. day before the race on starters. Mile heats, three in five.

Name and Pedigree of Horse.	By Whom Entered.
Rio Alto, b. c., by Palo Alto; dam, Elsie, by General Benton	---Palo Alto Stock Farm, S. Francisco.
John Bury, b. c., by Antinous; dam, Muldoon, by G. M. Patchen, Jr.	---Vendome Stock Farm, San José.
Topsy, br. m., by Grandissimo; dam, Flora B., by Whippleton	---F. W. Loeber, St. Helena.
Almonita, br. c., by Director; dam, Almonta, by Tilton Almont	---A. L. Hart, Sacramento.

## SUMMARY.

Rio Alto (Maben)	1	1	1
John Bury (Bunch)	2	2	2
Topsy (Loeber)	3	3	3
Almonita (Sanders)	4	4	dis.

Time—2:21½; 2:21½; 2:20½.



## REPORT OF MILK TEST.

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SACRAMENTO, CAL., October 2, 1894.

EDWIN F. SMITH, Esq., *Secretary State Agricultural Society, Sacramento, California:*

DEAR SIR: I respectfully submit a tabulated statement showing the result of the milk test at the last State Fair.

There were eleven cows entered in the contest. Milking hours were 6 A. M. and 5:30 P. M. Separate tests were made of each milking, and in addition thereto a composite test was made, the final test of which so closely corresponded with the separate tests as to prove the absolute correctness of the work.

The most careful attention was given every detail, and I believe that the owners of the cows were entirely satisfied with the fairness of the test.

I regret very much my inability to give you in every case the age, weight, date of calving, etc., of the cows, partly due to the indifference of the owners of the cows, and to the fact that the Society's scales were out of order. This information is not required in the report, but it would have made it more complete.

The cow winning the first prize, as you will note by the tabulated report, is Lady Woods, a Jersey, producing 7.879 pounds butter fat, equal to 9.85 pounds marketable butter. Comment on the yield of this cow is unnecessary. It goes without saying that it is a remarkable yield, and that Lady Woods is a phenomenal cow.

Baden Ruby 4th, a Durham, won second prize, producing 4.531 pounds butter fat, equal to 5.66 pounds marketable butter.

In my observations during this contest, I have been strongly impressed with the idea that a higher standard on the part of the owners of milk breeds should be aimed at; and that the Society, in order to encourage breeders to become more interested and to put forth greater effort, should offer larger premiums and more of them for this class, and at the same time establish a standard that a cow should reach in order to entitle her to enter into the contest. I have taken the liberty in a supplementary report to refer to this, and have submitted some matter to which I trust you will give your earnest and careful consideration.

Thanking you kindly for your courtesy extended to me, I am

Yours respectfully,

THOS. B. HALL,  
Inspector and Tester.

LADY WOODS (Jersey), 7 yrs. 7 mos.; weight, 1,020 lbs.; date of calving, September 2, 1894. Owner, Jerry Woods, of Sacramento.

Date—1894.		Pounds of Milk.	Per Cent of Fat.	Pounds of Fat.	Approx. Butter Yield.
September 10th.....	{ Morning..	19.94	6.6	1.316	
	{ Evening..	18.44	6.4	1.180	
September 11th.....	{ Morning..	21.25	6.9	1.466	
	{ Evening..	17.81	7.0	1.247	
September 12th.....	{ Morning..	20.50	6.6	1.353	
	{ Evening..	18.81	7.0	1.314	
Totals.....		116.75	-----	7.879	9.85

OLGA OF YERBA BUENA (Jersey), 11 yrs. 2 mos.; weight, — lbs.; date of calving, May —, 1894. Owner, Henry Pierce, of San Francisco.

September 10th.....	{ Morning..	13.20	5.2	.686	
	{ Evening..	12.18	5.2	.633	
September 11th.....	{ Morning..	13.93	5.0	.696	
	{ Evening..	11.75	5.4	.635	
September 12th.....	{ Morning..	13.31	5.0	.665	
	{ Evening..	11.63	5.4	.631	
Totals.....		76.05	-----	3.946	4.93

JOAN OF BADEN 2D (Durham), 6 yrs. 5 mos.; weight, — lbs.; date of calving, August 22, 1894. Owner, Hill & Ashburner, of Baden.

September 10th.....	{ Morning..	22.06	3.2	.706	
	{ Evening..	20.12	3.2	.644	
September 11th.....	{ Morning..	19.62	3.3	.647	
	{ Evening..	17.81	3.2	.570	
September 12th.....	{ Morning..	20.50	3.4	.697	
	{ Evening..	18.68	3.4	.635	
Totals.....		118.79	-----	3.899	4.87

BADEN RUBY 4TH (Durham), 5 yrs. 6 mos.; weight, 1,090 lbs.; date of calving, July 2, 1894. Owner, Hill & Ashburner, of Baden.

September 10th.....	{ Morning..	24.62	3.4	.837	
	{ Evening..	21.44	3.2	.686	
September 11th.....	{ Morning..	21.81	3.6	.785	
	{ Evening..	20.12	3.4	.686	
September 12th.....	{ Morning..	22.56	3.6	.812	
	{ Evening..	21.37	3.4	.727	
Totals.....		131.92	-----	4.531	5.66

BADEN CHERRY 4TH (Durham), 6 yrs. 3 mos.; weight, — lbs. Date of calving, August 14, 1894. Owner, Hill & Ashburner, of Baden.

September 10th.....	{ Morning..	21.25	3.6	.765	
	{ Evening..	18.87	3.6	.679	
September 11th.....	{ Morning..	19.18	3.2	.614	
	{ Evening..	17.00	3.4	.578	
September 12th.....	{ Morning..	19.06	3.6	.686	
	{ Evening..	18.18	3.2	.582	
Totals.....		113.52	-----	3.904	4.88

ROSA BELLE 8TH (Durham), 8 yrs. 2 mos.; weight, — lbs.; date of calving, August 5, 1894. Owner, P. H. Murphy, of Perkins.

Date—1894.		Pounds of Milk.	Per Cent of Fat.	Pounds of Fat.	Approx. Butter Yield.
September 10th.....	{ Morning..	15.75	4.2	.662	
	{ Evening..	15.81	3.6	.569	
September 11th.....	{ Morning..	17.31	3.4	.589	
	{ Evening..	16.87	3.2	.540	
September 12th.....	{ Morning..	18.18	4.0	.727	
	{ Evening..	16.12	3.4	.548	
Totals.....		100.04	-----	3.635	4.54

ROSE ANN (Durham), 2 yrs. 11 mos.; weight, — lbs.; date of calving, July 17, 1894. Owner, P. H. Murphy, of Perkins.

September 10th.....	{ Morning..	12.70	4.0	.508	
	{ Evening..	11.31	3.6	.407	
September 11th.....	{ Morning..	12.81	3.6	.461	
	{ Evening..	11.37	3.4	.387	
September 12th.....	{ Morning..	13.50	3.8	.513	
	{ Evening..	12.37	3.4	.421	
Totals.....		74.06	-----	2.697	3.37

RED ANNIE 1ST (Durham), 9 yrs. 7 mos.; weight, — lbs.; date of calving, August 27, 1894. Owner, S. Tryon, of Sacramento.

September 10th.....	{ Morning..	12.00	3.4	.408	
	{ Evening..	17.25	3.4	.587	
September 11th.....	{ Morning..	16.62	3.4	.565	
	{ Evening..	15.56	3.4	.529	
September 12th.....	{ Morning..	16.56	3.2	.530	
	{ Evening..	17.00	3.6	.612	
Totals.....		94.99	-----	3.231	4.04

KORVORTJE 3D (Holstein-Friesian), — yrs. — mos.; weight, — lbs.; date of calving, —, 1894. Owner, F. H. Burke, of San Francisco.

September 10th.....	{ Morning..	21.55	3.0	.647	
	{ Evening..	26.00	2.8	.728	
September 11th.....	{ Morning..	18.62	2.6	.484	
	{ Evening..	22.31	3.2	.714	
September 12th.....	{ Morning..	23.81	3.2	.762	
	{ Evening..	19.31	2.8	.541	
Totals.....		131.60	-----	3.876	4.85

BUTTER WITCH (Holstein-Friesian), — yrs. — mos.; weight, — lbs.; date of calving, —, 1894. Owner, F. H. Burke, of San Francisco.

September 10th.....	{ Morning..	10.50	3.8	.399	
	{ Evening..	10.00	3.8	.380	
September 11th.....	{ Morning..	10.06	3.8	.382	
	{ Evening..	8.93	4.0	.357	
September 12th.....	{ Morning..	8.50	3.8	.323	
	{ Evening..	8.50	3.2	.272	
Totals.....		56.49	-----	2.113	2.64



REBECCA EGMONDE 3d (Holstein-Friesian). — yrs. — mos.; weight, — lbs.; date of calving, —, 1894. Owner, F. H. Burke, of San Francisco.

Date—1894.		Pounds of Milk.	Per Cent of Fat.	Pounds of Fat.	Approx. Butter Yield.
September 10th .....	{ Morning ..	21.62	3.2	.692	
	{ Evening ..	23.37	3.2	.748	
September 11th .....	{ Morning ..	20.06	3.2	.642	
	{ Evening ..	20.12	3.2	.644	
September 12th .....	{ Morning ..	20.75	3.2	.664	
	{ Evening ..	21.44	3.2	.686	
Totals .....		127.36	-----	4.076	5.10

The following tables contain the average daily amount of milk, butter, etc., during the periods covered by the several tests, which in various instances lasted from one to three days:

*Illinois.*

Name of Cow.	Breed.	Pounds of Milk.	Per Cent of Fat.	Pounds of Fat.	Pounds of Butter.
Beulah Shawhan .....	Jersey .....	37.24	4.25	1.583	1.978
Missouri Girl .....	Jersey .....	20.40	7.01	1.430	1.787
Hannah of La Veta .....	Jersey .....	22.60	5.94	1.342	1.677
Kitty King .....	Jersey .....	29.60	5.02	1.486	1.857
Haw Hill Queen .....	Jersey .....	17.85	5.65	1.009	1.261
Kansas Cinderella .....	Jersey .....	27.60	3.60	.994	1.242
Salwedell's cow .....	Ayrshire .....	39.90	3.80	1.516	1.895
Munce's cow .....	Ayrshire .....	29.60	2.87	.847	1.058
Pet Rose .....	Ayrshire .....	28.62	2.75	.787	.983
Nahe 2d .....	Holstein .....	43.70	3.37	1.473	1.841
Empress Josephine .....	Holstein .....	54.90	2.85	1.565	1.954
Abbekerk .....	Holstein .....	28.70	3.05	.875	1.009
Bonnie Beauty .....	Holstein .....	17.00	3.30	.561	.700

*Ohio.*

Very Much .....	Jersey .....	44.75	4.62	2.060	2.575
Peterina 2d .....	Holstein .....	57.33	2.90	1.660	2.007
Hilton Maid 2d .....	Holstein .....	57.75	2.75	1.590	1.987

*Indiana.*

Tormentor's Lass .....	Jersey .....	24.50	5.07	1.242	1.552
Toltec's Genet .....	Jersey .....	26.90	5.90	1.587	1.983
Belle Miller .....	Jersey .....	23.80	5.02	1.195	1.493
Beulah Shawhan .....	Jersey .....	32.78	4.47	1.465	1.831
Regola 6th .....	Holstein .....	32.50	2.80	.910	1.137
Nahe 2d .....	Holstein .....	47.00	3.33	1.565	1.956
Molly Anderson .....	Holstein .....	38.15	2.50	.954	1.192
Nebula .....	Guernsey .....	23.62	3.15	.744	.903
Drucilla .....	Ayrshire .....	26.90	2.80	.753	.941

*Wisconsin.*

Johanna 5th .....	Holstein .....	83.45	-----	2.500	3.125
Schoone .....	Holstein .....	63.60	-----	2.085	2.606
Altje Salo .....	Holstein .....	45.25	-----	1.525	1.906
Daisy .....	Jersey .....	40.65	-----	2.420	3.025
Linda Pedro .....	Jersey .....	37.80	-----	2.015	2.518
Heloma 2d .....	Jersey .....	37.90	-----	1.925	2.406
Fannie's Fairy .....	Jersey .....	31.90	-----	1.820	2.275
Madora Gold .....	Jersey .....	30.50	-----	1.760	2.200
Baby Ryan .....	Jersey .....	36.00	-----	1.595	1.994
Fifer's Fairy .....	Jersey .....	23.00	-----	1.380	1.725
Deliah .....	Red Poll .....	27.70	-----	1.060	1.325
Sue Cady .....	Shorthorn .....	41.90	-----	1.230	1.537

## REPORT OF B. M. LELONG,

Superintendent of the Horticultural Department.

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*Hon. JOHN BOGGS, President, and Members of the State Agricultural Society:*

GENTLEMEN: At a meeting of the State Board of Horticulture on April 3, 1894, a letter was read from your Secretary, Mr. Edwin F. Smith, asking the coöperation of this Board and their taking charge of the horticultural exhibits at the State Fair. Accordingly, the following resolution was passed:

*Resolved*, That the Secretary be instructed to take such action as will bring the two Boards—Horticultural and Agricultural—together to take into consideration the propriety and advisability of the State Board of Horticulture taking charge of the horticultural exhibits of the State Board of Agriculture at the State Fair.

Subsequently I was appointed Superintendent of that department.

On September first I reported for duty at Sacramento, and at once began to apportion space to exhibitors, and continued in the work until the close of the Fair.

The display of agricultural and horticultural products was excellent, as were those of viticulture and viniculture; one exhibitor alone having 350 varieties of fruits, all classified, and another of over 100 varieties of grapes.

As an inducement to counties wishing to exhibit their products at the State Fair, the managers in charge of the Sacramento County display decided not to enter in competition for either first or second county prizes, they reserving the right, however, to enter for the third prize, which was agreeable to the managers of the other county exhibits. For this action the Sacramento County Commissioners are to be commended. The special premiums for most meritorious county exhibits were: \$500 for first, \$250 for second, \$50 for best arrangement of deciduous fruit exhibit, \$50 for best arrangement of exhibit of citrus fruits, and \$100 for the most extensive, perfect, and varied exhibit of farm products grown by one person. In addition to these, Sacramento County offered \$500, and the City of Sacramento also offered \$500. The premiums were therefore arranged as follows: First premium, \$1,000; second, \$500; third, \$250.

Tulare County was awarded first prize, Sutter County second prize, and Sacramento County third prize. The exhibits made by these counties were most excellent, and represented considerable painstaking work that must have been required to accomplish same. Here everything grown in the State was shown. Every variety of fruit was displayed. "What a wonderful sight that is," remarked a gentleman from abroad. "Do you grow all these fruits? I can hardly believe it, for if you do this is the most remarkable State in the world." His remarks in times gone by would have been called a *prediction*, but

now it is an established fact that no State or country in the world can show a greater diversity of industries than California. Sacramento, Sutter, and Tulare Counties did themselves proud in the efforts made to show their wonderful capabilities of soil and climate, and the efforts of those in charge deserve commendation.

The other premiums offered in the various departments were as follows:

Deciduous fruits .....	\$320 00
Semi-tropical fruits (citrus).....	265 00
Semi-tropical fruits (other than citrus) .....	40 00
Vegetable oils and olives.....	95 00
Cultivated nuts .....	90 00
Table grapes .....	50 00
Dried and preserved fruits .....	55 00
Raisins.....	40 00
Honey, preserves, pickles, etc.....	100 00
Silk, cotton, and tobacco .....	120 00
Flour and grain .....	170 00
Vegetables, roots, etc. ....	92 00
Dairy products.....	102 00
Sugar, syrup, extracts, etc. ....	70 00
Viticulture.....	355 00
Floral display.....	240 00

Two of the most striking exhibits of farm products were made by Mrs. Robert Williamson, of Sacramento, and Mrs. E. Shields, of Routiers. The exhibit made by Mrs. Williamson was the larger, and contained everything raised on a farm. Commencing at one end were eggs, butter, lard, hams, bacon, pickles, jellies and preserves of all kinds, dressed poultry, vegetables, etc. On the next table were exhibited cereals of all kinds, and on the tables adjoining fruits in profusion and great variety, both citrus and deciduous, also other tropical fruits, dates, pomegranates, olives, etc. This exhibit was awarded the gold medal in the Sixth Department and a special premium of \$100.

Mrs. Shields' exhibit was voted to be the most meritorious in the Fifth Department, and was awarded the Society's gold medal. This exhibit was very unique and was comprised of a great variety of products. One of the most striking objects in it was a representation of a farm shed, on the roof of which were displayed trays filled with different kinds of fruit in the various stages of drying. Underneath, hams, bacon, etc., were to be seen hanging, presenting a sight quite familiar in farm life. Boxes of all kinds of fruits, showing the different styles of packing from a commercial standpoint, were also displayed in great quantity. A farm truck loaded with fruit in boxes was also exhibited; in all presenting a great object-lesson, and one that will be long remembered by those fortunate enough to see it.

Perhaps the most interesting exhibit was made by the California Nursery Company, of Niles. This comprised several hundred specimens of all kinds of deciduous fruits, nuts, olives, etc. Every variety was properly named. Many new fruits were exhibited for the first time. Mrs. E. L. Hawk displayed a wonderful collection of grapes, many of which had never been seen before. E. E. Goodrich, of Santa Clara, exhibited a case with all the different varieties of olive oil made by him at "El Quito Olive and Vine Farm," Santa Clara. The olive tower of Ellwood Cooper, Santa Barbara, adorned the great Exhibit Hall; it was placed exactly in the center, and elicited much admiration. The Oakland Cotton Mills exhibited a very interesting display of cotton. Here was seen cotton as it comes from the plant; also after being made



into different articles. Sherwood Hall Seed and Plant Company had on exhibition a large collective display of farm and garden seeds. The beet sugar exhibit, by Spreckels Bros., was also very interesting. Lack of space prohibits further mention of the seemingly inexhaustible displays made.

#### RECOMMENDATIONS.

There are various abuses that naturally arise at all such exhibitions, and, having observed several, I beg to herewith offer such recommendations as I think pertinent hereto.

*First*—The law providing for State Fairs was enacted to foster the industries named. The rules of your Society, in accordance with law, provide that all goods exhibited shall be of California production and to be exhibited by producers. Heretofore, no rule has been established for the entry of goods, and it is here where the abuse lies, and which should be corrected in the future. Many persons frequent the Fair every year with borrowed or purchased goods and obtain premiums amounting to hundreds of dollars, thus shutting out the producers, whom the law intended to encourage. I beg to recommend that hereafter an entry blank be prepared, which the intending exhibitor shall fill out. The superintendent of the department will then examine the articles offered, and if they are of State production and the party in whose name they are entered be a producer, he shall so certify on the blank and turn the same over to the entry clerk, who will enter the articles. Under the present system the articles are allowed to be placed on exhibition and entered, and it is left for the superintendent of the department and the committees, when passing upon same, to determine if the exhibitor has complied with the rules. Many articles thus escape the notice of both, and in this way considerable premiums which should go to producers are paid out to "fake" exhibitors.

*Second*—Under the present system an exhibitor is compelled to put up his own stand and arrange his own exhibit, no matter how small it may happen to be. There should be a distinction between the one who exhibits solely for premiums and the one who sends specimens of products, especially of new varieties, to be displayed for the benefit of the Society. Tables should be provided for fruit exhibits on plates, and varieties of fruits solicited, these to be entered in the name of the donors, and such special premiums given as in the judgment of the Society may be deemed proper.

*Third*—It was hoped that counties and exhibitors would show all the products of our State, so that when visitors attend the Fair a good example of all the industries would be shown. The large amount of money offered as premiums should certainly be an inducement to have such exhibits collected, and while they have been exhibited in former years, they have been taken away, and in the Fair following they are greatly missed. Such exhibits require much time and labor to collect, and it seems to me the State Agricultural Society should undertake the collecting of said exhibits, and when the Fair closes they should be covered up and preserved. I therefore beg to recommend that instead of paying out such large sums of money for premiums, which are only competed for by few persons, a sufficient sum be set aside each year to be devoted to the collecting and installing of representative exhibits of farm products, timber, cereals, wool, minerals, etc., which once collected

would become the property of the State. I am satisfied that if this were done, in two years the State Agricultural Society would be in possession of perhaps the finest collection ever put together in our State. Then they could do away with the "fake" exhibits, and only producers be allowed to compete for premiums. The city and county of Sacramento subscribed \$1,000 to encourage exhibits to be made by counties. Sacramento has shown her liberality at other times as in this, but really it benefited only a few, and I doubt the wisdom of such appropriations unless more counties would compete for the prizes. The city and county of Sacramento could well afford to pay, with profit to themselves, half the salary of a person so employed, instead of giving it out for prizes.

Let me assure you, gentlemen, that it is only with a degree of friendship and high regard for you that I offer these recommendations, and with the belief that you desire to know where abuses exist, if any. I beg of you, individually and as a Board, to accept my sincere thanks for the kind consideration shown me. I also take this opportunity to thank your efficient and courteous Secretary, Mr. Smith, your able superintendents, Messrs. Green and Dodge, and all assistants, for the uniform courtesy shown me during my sojourn in your beautiful city.

Very respectfully yours,

B. M. LELONG.

## ANNUAL ADDRESS

DELIVERED BEFORE THE STATE AGRICULTURAL SOCIETY OF CALIFORNIA, AT SACRAMENTO, SEPTEMBER 13TH, 1894.

By HON. F. H. GOULD, of Stockton.

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*Mr. President and Members of the State Board of Agriculture, Ladies and Gentlemen:*

Ever since our earliest progenitors in America cleared the first garden and planted the first seed, the farmer and his product have been peculiarly the foundation-stone of national stability and prosperity.

The ranks of our armies of defense during the days of national infancy were filled by the yeomanry of America, and the graves of fraternal strife in later years inclose the forms of those who laid down the scythe for the musket. Thus shall it ever be.

From the pure and free life of the plains and the hills and the mountains comes the deepest inspiration to manly duty and self-sacrifice.

It is, then, but just that in our State policy preëminently should be considered the interest and welfare of the California farmer, and to you, gentlemen of this Board, has been intrusted that high and honorable post.

You have gathered here from the different portions of our wonderfully diversified State, a vast and interesting exhibition—one entitling you to credit, and fairly, in a miniature way, exhibiting the marvelous varieties of products possible—nay, not possible, for her possibilities are unlimited—but actually existing in our State.

If your duties ceased here, however, some question might be raised as to whether the sums of money apportioned to your Society had been well expended.

A bare exhibition of what has been done avails little more than a daily visit to our markets, for there fruits, flowers, and other products in almost surfeiting profusion and of unsurpassed excellence are found.

In manufactures the shops and show windows of any city afford a more complete and interesting collection than by any possibility can be gathered here.

We are accustomed to being taught that things have been done; our daily press teach us that. A fair, however, should be a living exponent of how useful things are done and done best.

A farmer whose product has cost a given sum per pound can be vastly benefited by learning to produce that article at a lower cost, or to produce a better article at the same cost; but what does it profit him to know that some one can produce a better article than himself if the secret of its production is withheld.

It is, then, not to the product (except to show the excellence of the process) that the exhibition should extend a welcome, but to the how and the why.



A fair should be an institution, not a show; an exhibition of industrial processes, an illustrated lecture, a school, and not a pompous pageant.

That you have realized this, many exhibitors here give evidence; but the full benefit of our State Fairs will not be realized until the premium is placed, not on product alone, but on product and process—until men are rewarded, not for displaying alone what they have done, but for instructing others, that they may do as well.

I do not think a premium ought ever to be given for any produced article, unless an improved process of production be thereby exemplified and its minutiae explained.

There are other directions in which the Society might wisely extend its efforts. A crying need of our rural population is a better class of labor—earnest, faithful workers are needed to replace the army of tramps that march and countermarch up and down the highways and byways of our State, eking but a miserable existence on the occasional day's work furnished by a system of employment that fosters vagrancy.

Employment agencies that would equalize the tides of labor, and thus benefit the employer and employed, might well be established and maintained.

A bureau of weather and crop statistics could be established, at a small expense, throughout the State, that would serve not only to inform all the people of existing conditions at other places than their homes, but would vastly benefit the farmer in his operations, and serve as a mine of valuable information to the home-seeker throughout the world—conclusive and reliable, because stamped with the authority and credit of this honorable institution.

Yours is no thankless task, and no ordinary field is presented for your operations.

There is beneath the sun no fairer field, no more widely diversified scene from which to gather inspiration and to make a lasting record of your achievements.

From the alpine regions of majestic Shasta—rising titan-like from the deep and umbrageous forests of the north—stretching away over the fair and fertile Sacramento and San Joaquin plains, into the paradise of Southern California and the torrid, burning sands of the Colorado Desert, in whose mirages alone are photographed the cooling waters that never moisten its bosom, lies a scene of promise almost virgin in its present uses, but as prolific in its natural promise as the laws of David. Rivers whose constant flow is fed from the exhaustless stores reservoired by Nature in the higher Sierra, and pulsing with never-ceasing hydraulic power, are ready and willing slaves to the intelligence and power that, with your encouragement, shall some day, with electrical transmission, turn the spindles of a thousand factories, propel with lightning speed the engines of transportation within our borders, draw from its hidden recesses in the earth a golden harvest whose wonders have as yet been barely touched, plow your soil, harvest your grain, and flash into day the darkness of night.

With such an end in view, and such a field for labor, gentlemen, a coming generation awaits to shower praise on you for your performance of those pleasant duties.

# THE SOUTHERN CALIFORNIA CITRUS FAIR.

FIFTH YEAR, 1894.

The Southern California Citrus Fair for the year 1894 opened February 20th, and continued through February 24th. By the almost unanimous wish of the citrus fruit growers of Southern California this fair was held in the Southern California Building at the Midwinter Fair, in San Francisco. The Citrus Fair Committee, in whose hands the management of the undertaking rested, were as follows:

*Los Angeles County*—  
C. E. Bemis,  
A. Scott Chapman,  
A. C. Thompson.

*San Diego County*—  
W. C. Kimball,  
J. E. Boal.

*Ventura County*—  
E. S. Thacher,  
J. B. Wickoff.

*San Bernardino County*—  
E. J. Waite,  
William Friend,  
W. F. Grow.

*Riverside County*—  
W. H. Backus,  
John Jarvis,  
H. A. Puls.

Frank Wiggins, Superintendent of the Southern California Building, acted as Superintendent of the fair. As there was no admission charged, the expenses of the fair, other than premiums, were borne by the Southern California Midwinter Fair Association. The \$2,500 received from the State was paid out for premiums, as follows:

## JUDGES' OFFICIAL LIST OF AWARDS.

### CLASS I.

For best exhibit of citrus fruit from any county in the district:

First premium .....	San Bernardino County .....	\$200 00
Second premium .....	Los Angeles County .....	125 00
Third premium .....	Riverside County .....	75 00
Fourth premium .....	San Diego County .....	50 00
Fifth premium .....	Tulare County .....	35 00
Sixth premium .....	Ventura County .....	25 00

### CLASS II.

For best exhibit of citrus fruit from any locality in the district:

First premium .....	Porterville .....	\$125 00
Second premium .....	Ontario .....	100 00
Third premium .....	Redlands .....	75 00
Fourth premium .....	Riverside .....	50 00
Fifth premium .....	Highlands .....	40 00
Sixth premium .....	Duarte .....	25 00
Seventh premium .....	Azusa-Covina-Glendora Citrus Growers' Association .....	15 00

### CLASS III.

For best exhibit of budded and seedling oranges, grown by one exhibitor:

First premium .....	G. F. Frost, Porterville .....	\$100 00
Second premium .....	J. S. Harvey, San Diego .....	80 00
Third premium .....	Harwood & Woodford, Ontario .....	60 00
Fourth premium .....	W. H. Backus, Riverside .....	50 00
Fifth premium .....	S. M. Marshall, San Diego .....	35 00
Sixth premium .....	A. C. Thomson, Duarte .....	25 00
Seventh premium .....	G. T. Stamm, Ontario .....	15 00

## CLASS IV.

For best exhibit of lemons, grown by one exhibitor:

First premium	J. W. Freeman, Ontario	\$100 00
Second premium	W. S. Andrews, Sierra Madre	80 00
Third premium	Harwood & Woodford, Ontario	60 00
Fourth premium	San Diego Land and Town Co.	50 00
Fifth premium	Dr. A. E. McDonald, Ontario	35 00
Sixth premium	R. Lindner, Porterville	25 00
Seventh premium	W. W. Blanchard, Santa Paula	15 00

## CLASS V.

For best packed box of oranges, commercially considered:

First premium	W. Stevenson, Jr., Lamanda Park	\$20 00
Second premium	Chas. L. Wilson, Whittier	10 00
Third premium	T. S. McKee, Duarte	5 00

## CLASS VI.

For best packed box of lemons, commercially considered:

First premium	Sicily	Ontario Lemon Growers' Exchange	\$20 00
Second premium	California	Ontario Lemon Growers' Exchange	10 00
Third premium		D. H. Burnham, Riverside	5 00

## CLASS VII.

For best thirty specimens of Washington Navels, grown by one exhibitor:

First premium	B. B. Barney, Palm Valley	\$25 00
Second premium	J. E. Cutter, Riverside	15 00
Third premium	G. T. Frost, Jr., Porterville	10 00

## CLASS VIII.

For best thirty specimens of Mediterranean Sweets, grown by one exhibitor:

First premium	J. A. Maddock, Duarte	\$25 00
Second premium	John Bender, Glendora	15 00
Third premium	Mathew Gage, Riverside	10 00

## CLASS IX.

For best thirty specimens of St. Michaels, grown by one exhibitor:

First premium	W. H. Backus, Riverside	\$25 00
Second premium	John Scott, Duarte	15 00
Third premium	Miss E. Freeman, Ontario	10 00

## CLASS X.

For best thirty specimens of Malta Bloods, grown by one exhibitor:

First premium	John Scott, Duarte	\$25 00
Second premium	Essington Gibson, Ojai	15 00
Third premium	H. A. Puls, Riverside	10 00

## CLASS XI.

For best thirty specimens of some budded variety of oranges, not mentioned above, grown by one exhibitor:

First premium	Jaffa	G. T. Frost, Sr., Porterville	\$25 00
Second premium	Tangerine	O. S. Picher, Ontario	15 00
Third premium	Valencia	J. W. F. Diss, Redlands	10 00

## CLASS XII.

For best thirty specimens of seedling oranges, grown by one exhibitor:

First premium	G. T. Frost, Sr., Porterville	\$25 00
Second premium	A. M. Quinn, Porterville	15 00
Third premium	T. S. McKee, Duarte	10 00

## CLASS XIII.

For best thirty specimens of Lisbon lemons (cured), grown by one exhibitor:

First premium	J. W. Freeman, Ontario	\$25 00
Second premium	Frank Freeman, Ontario	15 00
Third premium	Harwood & Woodford, Ontario	10 00



## CLASS XIV.

For best thirty specimens of cured Villa Franca lemons, grown by one exhibitor:

First premium .....	R. Lindner, Porterville.....	\$25 00
Second premium .....	J. W. Freeman, Ontario .....	15 00
Third premium .....	A. M. Quinn, Porterville .....	10 00

## CLASS XV.

For best thirty specimens of cured Eureka lemons, grown by one exhibitor:

First premium .....	G. R. Thayer, Cucamonga .....	\$25 00
Second premium .....	J. W. Freeman, Ontario .....	15 00
Third premium .....	R. Lindner, Porterville.....	10 00

## CLASS XVI.

For best thirty specimens of some variety of lemons (cured), not mentioned above, grown by one exhibitor:

First premium .....	Genoa .....	J. W. Freeman, Ontario .....	\$25 00
Second premium .....	Bonnie Brae.....	J. S. Harvey, El Nido .....	15 00
Third premium .....	Sicily .....	E. S. Thacher, Ojai .....	10 00

## CLASS XVII.

For best exhibit of limes grown by an individual:

First premium .....	Mexican .....	John Scott, Duarte .....	\$10 00
Second premium .....	Imperial.....	A. C. Thomson, Duarte.....	5 00

## CLASS XVIII.

For best exhibit of citron of commerce:

First premium .....	W. R. Ingham, Highlands.....	\$10 00
Second premium .....	I. H. Cammack, Whittier.....	5 00

## CLASS XIX.

For best exhibit of grape-fruit:

First premium .....	S. M. Marshall, San Diego .....	\$10 00
Second premium .....	F. M. Douglas, Duarte .....	5 00

## CLASS XX.

For best exhibit of shaddocks or pomelos:

First premium .....	C. K. McKeveit, Santa Paula .....	\$5 00
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## CLASS XXI.

For best exhibit of products of the orange and lemon:

First premium .....	L. E. Allen, San Diego .....	\$20 00
Second premium .....	Southern California Packing Co., Los Angeles .....	20 00
Third premium .....	E. C. Driffill, Pomona .....	5 00
Fourth premium .....	Pasadena Preserving Co., Pasadena .....	5 00

## CLASS XXII.

For best exhibit of prepared citron:

First premium .....	Bishop & Co., Los Angeles.....	\$10 00
Second premium .....	C. L. Wilson, Whittier .....	5 00

## CLASS XXXIII.

For best exhibit of semi-tropic products:

Guava jelly .....	L. E. Allen, San Diego .....	\$2 50
Guava fruit .....	L. E. Allen, San Diego .....	2 50
Fig preserves .....	L. E. Allen, San Diego .....	2 50
Fig jam .....	L. E. Allen, San Diego .....	2 50
Bananas .....	Jacob Miller, Cahuenga .....	2 50
Cherimoyers .....	Jacob Miller, Cahuenga .....	2 50
Olive oil .....	F. A. Kimball, National City .....	40 00
Pickled olives .....	R. C. Allen, Bonita .....	7 50
Dried figs .....	H. O. Bowen, Escondido .....	2 50
Crystallized fruit.....	Mrs. Mary McLaren, San Diego .....	5 00
Jellies .....	Mrs. Mary McLaren, San Diego .....	7 50
Olive oil .....	C. H. Conant, Ontario .....	20 00
Olive oil .....	J. L. Howland, Pomona .....	30 00
Pickled olives .....	Thacher & Sons, Pomona .....	15 00

C. D. WILLARD, Secretary.

FRANK WIGGINS, Superintendent.

## WHEAT-GROWING IN CALIFORNIA.

THE COST OF PRODUCTION, ITS USES AS A FOOD FOR FARM ANIMALS,  
AND ITS FUTURE.

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As referred to in our report to the Governor, we submitted the following questions to about three hundred of the largest wheat-growers of California, located in different counties:

What does your wheat cost you per bushel in the sack, including 7 per cent interest upon value of land upon which raised, also wear and tear of equipment. If the yield is 10 bushels per acre; answer, — cents; 15 bushels per acre, — cents; 20 bushels per acre, — cents; 25 bushels per acre, — cents; 30 bushels per acre, — cents.

What is the present value of land upon which wheat is produced at cost named?

How many bushels per acre should land yield to make wheat-growing fairly profitable in your county at one cent per pound?

What proportion of wheat land in your county now yields that amount?

Have you had any experience in the use of wheat as feed for animals—horses, cattle, swine, etc.? If so, is there any reason why it should not be so used, either alone or mixed with other grains?

At present prices would it not be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened?

What profitable disposition, in your opinion, can be made of our wheat to insure the grower warranted returns?

Kindly give us any suggestions you may have, or observations you have made upon the subject, that will, in your opinion, be of interest to the general public.

### REPLIES.

#### ALAMEDA COUNTY.

*T. C. Johnson, Pleasanton.*

Have used wheat mixed with barley for feeding work horses; also, in fattening swine, and find pork made therefrom as good as any corn-fed.

I fear it would not pay growers to feed a large proportion of their wheat to cattle, on account of low prices for stock. Cannot imagine what we will do with our wheat, it is so abundant. Probably the growing of some other product for a number of years might relieve us.

Years since, I thought fruit-raising a welcome change, but that does not pay very well. In a region like this, ten miles north of Pleasanton, grain, fruits, and hay are about all we can raise successfully. Formerly, in the valleys as high as 45 bushels of wheat per acre was raised. Now we do well if we raise half that amount on land that is pastured in alternate years.

Wheat cannot be used economically to feed cattle. As to hogs, tight inclosures, etc., are required, and during the spring the grasses are not sufficient to keep hogs growing preparatory to fattening in fall.

Would like some one to suggest a way out of our dilemma, as farming is growing worse and worse. This is a good county, fertile and healthful, but we get only 40 per cent of former prices for horses, 45 per cent for wheat, and about 65 per cent for cattle. As to hogs, only

enough are raised for home consumption. We have fruit of all kinds in abundance.

Wheat costs me per bushel in the sack, 60 $\frac{1}{4}$  cents, if the yield is 25 bushels per acre; the present value of the land being \$35 per acre. In this locality, where about two thirds of the tillable land is adobe hills, land should yield 32 $\frac{1}{2}$  bushels per acre to make wheat-growing profitable at one cent per pound.

#### AMADOR COUNTY.

*J. A. Godding, Lancha Plana.*

Wheat cannot be raised in this county profitably at one cent per pound, unless land yields 20 bushels per acre. A very small proportion, however, now yields this amount.

Have had thirty years' experience in the use of wheat as feed, and find it superior to any other grain at same price. I think one pound of wheat is equal to two of barley. Ten pounds of wheat will make two pounds of pork. It should be fed carefully to horses and cattle.

There is a great wrong in all our Government affairs, and the people are to blame. The farmers are the hardest class of people in the world to organize for their own protection. Farmers, as a rule, do not harmonize; the unsuccessful ones are envious of the successful. It is claimed that any fool can farm, and that all the smart men and boys go into business in the cities. But I advocate that it takes a better head to run a farm and market the products thereof, than it does to run a mercantile business. A farmer has to make a study of the kind of stock to keep that will be profitable, and at the same time not too expensive; also, the right time to buy and sell. The best of us, however, are deceived sometimes.

Small farms, upon which the owner can do most of his labor, or where but little extra help is required, will, in my opinion, be the most successful.

#### BUTTE COUNTY.

*W. W. Durham, Durham.*

My wheat costs me 65 cents per bushel in the sack, which includes interest, etc. The present value of the land upon which wheat is produced at above cost is \$80 per acre. Not over 20 per cent of the land in this county now produces 25 bushels per acre, which amount should be raised to make wheat-growing fairly profitable at one cent per pound.

Wheat is excellent food for all live stock when properly fed, particularly for swine. With pork at 4 cents per pound on the ranch, I think it would be profitable to feed a large proportion of the wheat crop.

Reduce the acreage devoted to wheat-growing by planting alfalfa where possible. Keep more live stock, poultry, etc.; in short, practice diversity of farming. The farmer should spend more of his time on the farm, less in town; more on improvements, less in the "gin mills." The California farmer will have to practice the same rigid economy that has enabled the older States to pull through in periods of hard times.

*E. T. Reynolds, Chico.*

Have had limited experience in the use of wheat as feed for animals, but see no reason why it should not be used extensively as such. No other grain is superior in feeding value.



At present prices, I think it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened. Wheat costs me per bushel in the sack as follows:

	Per Bushel.
10 bushels per acre .....	\$0 90
15 bushels per acre .....	63
20 bushels per acre .....	50
25 bushels per acre .....	42
30 bushels per acre .....	37

The present value of land upon which wheat is produced at above cost is \$60 per acre.

For their own protection, farmers should coöperate.

*Garrett Koppel, Gridley.*

With a yield of 25 bushels per acre, wheat costs me 40 cents per bushel. Should judge that three fourths of the wheat land in Gridley, Hamilton, and Chico townships now yields 25 bushels per acre, which would make wheat-growing, at one cent per pound selling price, fairly profitable in this county, upon land the present value of which is \$60 per acre.

Wheat, mixed or by itself, is a good feed, except for horses, when it should be mixed with barley or oats, about one half of each.

I think, at present prices, it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

#### COLUSA COUNTY.

*C. P. Wilson, Grimes.*

I have had considerable experience in feeding wheat to animals, and see no reason why it should not be so used. At the present low prices for stock I do not think it would be profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened, but in my opinion it would be more profitable to raise and sell wheat at 85 cents in San Francisco.

In this county, land costing from \$30 to \$50 per acre should yield 30 bushels per acre to make wheat-growing profitable at one cent per pound, and only one tenth of the wheat land in this county now yields the above amount.

The following figures as to the cost per bushel in the sack are based upon the farmer owning his land, including 7 per cent interest, etc.:

	Per Bushel.
10 bushels per acre .....	\$1 16
15 bushels per acre .....	80
20 bushels per acre .....	60
25 bushels per acre .....	50
30 bushels per acre .....	40

*Peter Peterson, Sites.*

Land should yield from 17 to 20 bushels per acre to make wheat-growing fairly profitable in this county at one cent per pound. About one half of our wheat land now yields this amount.

I find wheat is good feed for animals, especially for swine, and I think at present prices it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

Wheat costs me per bushel in the sack, including 7 per cent interest, as follows:

	Per Bushel.
10 bushels per acre .....	\$0 61 $\frac{1}{4}$
15 bushels per acre .....	41 $\frac{1}{2}$
20 bushels per acre .....	31 $\frac{1}{8}$
25 bushels per acre .....	26
30 bushels per acre .....	22

*James Deveney, St. Johns.*

I think the farmer who depends entirely on his wheat crop will, in a few years, find himself bankrupt. The land in this State does not produce over one half the crop it did eight years ago, and the yield is getting less every year. If the farmers of this State would only raise more big hogs, steers, and sheep, and drive them to market, they could sell all that might be fattened. They should get choice breeds, and feed them as they do in the Eastern States. In my opinion, wheat is just as good as corn for feed. We have thousands of acres that will grow good corn, and if desired it can be mixed with wheat. I am of the opinion that farmers in all the Eastern States will feed at least one quarter of all the wheat they raise hereafter. Many of them think wheat as good as corn, if not better. If the farmers in this State were of my opinion, they would feed at least one fourth of all the wheat they raise, as I know there is more money in feeding than in selling at one cent per pound.

It costs me per bushel to raise wheat, including 7 per cent interest, etc.:

	Per Bushel.
10 bushels per acre .....	\$0 58
15 bushels per acre .....	47
20 bushels per acre .....	47
25 bushels per acre .....	40
30 bushels per acre .....	35

From \$35 to \$100 per acre is the present value of land upon which wheat is produced at cost named above. Land should yield 20 bushels per acre at the lowest to make wheat-growing profitable in this county at one cent per pound, and not more than one tenth of the land now yields this amount.

If the yield is not 20 bushels per acre, and the farmer has to sell for less than one cent per pound, feed your wheat to cattle and swine for market purposes; wheat to be ground and mixed with one fourth barley.

*J. H. Langenon, College City.*

Wheat costs me per bushel in the sack, including interest at 7 per cent on value of land for two years (I summer-fallow), as follows:

	Per Bushel.
10 bushels per acre .....	\$0 98
15 bushels per acre .....	66 $\frac{1}{2}$
20 bushels per acre .....	55
25 bushels per acre .....	45
30 bushels per acre .....	35

The present value of land upon which wheat is produced at above cost is \$25 per acre. Land in this county should yield from 25 to 30 bushels per acre to make wheat-growing fairly profitable at one cent per pound. One third of present acreage now yields this amount.

Wheat, alone or mixed with other grains, is an excellent feed for animals. At present prices I think it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

*E. M. Houx, Maxwell.*

Wheat costs me per bushel in the sack, including interest at 7 per cent upon value of land, as follows:

	Per Bushel.
10 bushels per acre .....	\$1 14
15 bushels per acre .....	77
20 bushels per acre .....	59
25 bushels per acre .....	48
30 bushels per acre .....	40½

The present value of land upon which wheat is produced at above cost is \$40 per acre. Land should yield 25 bushels per acre to make wheat-growing fairly profitable in this county at one cent per pound. About 10 per cent of the land now yields the above amount.

Wheat is very good fed alone to swine; but for horses and cattle it should be mixed with barley, oats, or broomcorn seed.

I think it would be profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

I find that by grinding the wheat the results are much better than when feeding it whole. If fed whole, it should be cooked thoroughly.

#### FRESNO COUNTY.

*Alpha A. Webber, Selma.*

I am one of the largest hog-raisers in the San Joaquin Valley. I also raise about two thousand acres of wheat each year. Three and one half to four sacks per acre is a full average yield. It cannot be raised for less than 90 cents per hundred pounds without loss. At that price the farmer is working for his board and clothes. It would not pay to feed wheat to hogs to a large extent at present prices. Two years ago hogs sold for 7 cents, now 3¼ cents. One year from now they will be selling for 2½ cents. At these prices, it would not pay to feed wheat. Better sell the wheat at 70 cents per hundred pounds.

Wheat soaked or ground is excellent feed for growing pigs. It is better than barley to fatten, but not equal to corn. Feeding wheat to hogs will kill the hog business. It has greatly injured it this year.

If the savings banks would reduce interest on present loans one half, it would help the farmers of the State, as well as the banks themselves, to continue through the depressed times and prices. They had better do it than take the farms, which they will have to do if the present rate of interest is kept up.

Government ownership of railroads would greatly assist in the reduction of freights. If the State or United States Government would loan legal tenders directly to the farmer at 2 per cent, it would greatly help. Universal employment of laborers at fair prices would create a market for our produce right here at home. One million men are out of employment in the United States, which is equal to a loss yearly of \$3,000,000,000 to this nation. This sum would pay for some hogs, wheat, and merchandise.



*O. H. Easton, Borden.*

With a yield of 10 bushels per acre, wheat costs me 50 cents per bushel in the sack, which includes interest upon value of land. The present value of good wheat land is \$12 50 per acre, and in order to make the growing of wheat profitable at one cent per pound, the yield per acre should be 15 bushels. About one-third of the land in this county now produces the above amount.

Have had experience in feeding wheat to hogs, and find that it pays better than to sell at present prices.

#### GLENN COUNTY.

*P. R. Garnett, Willows.*

In this county a crop is raised every other year, hence figures given below are for a crop, not for one year:

10 bushels per acre costs me	\$5 20, or	.....	\$0 52	per bushel.
15 bushels per acre costs me	5 59, or	.....	37 $\frac{1}{2}$	per bushel.
20 bushels per acre costs me	5 82, or	.....	29 $\frac{1}{10}$	per bushel.
25 bushels per acre costs me	6 40, or	.....	25 $\frac{1}{2}$	per bushel.
30 bushels per acre costs me	6 93, or	.....	23 $\frac{1}{10}$	per bushel.

The present value of land upon which wheat is raised at above figure is from \$15 to \$40 per acre. One half of the land in this county now raises 20 bushels per acre, which makes wheat-growing fairly profitable at one cent per pound.

During my experience in feeding wheat I found that it will fatten hogs quicker than corn or barley, but the bacon will not be quite so good. Can be fed mixed, or by itself. Fed wheat this year to hogs, with profit.

The railroad ought to make a reduction in freight of at least 50 per cent. We are paying the same price now as when wheat was worth \$1 50 per hundred pounds, whereas steel rails and everything pertaining to the construction of a railroad are now from 25 to 50 per cent lower than they were then. Congress has helped build up the manufacturing interests, now let the Government lend its aid to agricultural interests, and help the farmers on their feet. When I or any other farmer works in the field, we are competing against men who are receiving only 10 cents per day. I submit the following figures:

<i>Cost of 10 bushels per acre.</i>		<i>Cost of 30 bushels per acre.</i>	
Plowing .....	\$2 00	Plowing .....	\$2 00
Seed .....	1 00	Seed .....	1 00
Sowing .....	50	Sowing .....	50
Harvesting .....	1 00	Harvesting .....	1 75
Sacks .....	30	Sacks .....	72
Hauling .....	40	Hauling .....	96
	<hr/>		<hr/>
	\$5 20		\$6 93

*F. M. Lutts, Willows.*

Wheat costs me 43.7 cents per bushel in the sack, which includes interest at 7 per cent upon value of land, the present price of which is \$30 per acre.

In order to make wheat-growing fairly profitable in this county at one cent per pound, land should yield 20 bushels per acre. Probably one third of the wheat land in Glenn County now yields this amount.

Have had very limited experience in the use of wheat as feed for animals, but if fed carefully all kinds of stock thrive better on it than on any other grain.

Have only one suggestion to make, and that is if economy had been made a study by our farmers, the low prices would not be so oppressive. If a man does not save in prosperity, he is sure to suffer when adversity comes.

LOS ANGELES COUNTY.

*Jacob Swall, Del Sur.*

Have grown wheat in California for the past twenty years on a scale of 1,000 acres, and made money up to the last two years. Would suggest that the big ranches be done away with, and in their places more small farms, as owners thereof can market their crops with less expense, thereby consuming more wheat for their own use. At present price of wheat, growers cannot make expenses.

With land yielding 10 bushels per acre, wheat costs me 22 cents per bushel in the sack, which includes interest, etc. In order to make the growing of wheat profitable, land should yield from 12 to 15 bushels per acre. About one fifth of the land now yields this amount.

I find by experience that it gives better returns to feed crop to horses and swine.

*S. A. Waldron, Los Angeles.*

Wheat costs me 56 cents per bushel, if the yield is 10 bushels per acre; 47 cents, if 15 bushels; 28 cents, if 20 bushels; 22 cents, if 25 bushels, and 18 cents, if 30 bushels per acre, upon land the present value of which is \$20 per acre. Land in this county should yield 25 bushels per acre to make the growing of wheat profitable at one cent per pound. Should judge 10 per cent of the wheat land now yields this amount.

Have had no experience in the use of wheat as feed for animals, but think it would be profitable.

The financial condition of the world's consumers of wheat should be improved, so that they can afford to eat wheat. Cheapen the dollar by an increase of the volume of money. Government should control transportation, both by land and water. Make it possible for labor to satisfy all its needs by allowing excess to exert itself on all the means of production.

MENDOCINO COUNTY.

*John Mewhinney, Pomo.*

It costs me to raise 10 bushels of wheat per acre, 85 cents per bushel; 15 bushels, 65 cents; 20 bushels, 55 cents, and 25 bushels, 51 cents; the present value of the land being from \$30 to \$70 per acre.

With a yield of 30 bushels per acre, wheat could be raised profitably in this county at one cent per pound. I should estimate that one fourth of the wheat land now yields the above amount.

Wheat fed in sheaf or in stack is excellent for swine, but not for horses or cattle.

Would suggest Government ownership of railroads run in the interest of the people; also, free coinage of silver. Stop tariff tinkering, and the Government to loan money to the producers at whatever the increase of the wealth in the country is. It is time for the Government to come in between the skinned and the Skinner. The Government and the people want to come together, and do for the whole, not for Wall Street alone.

*J. Scott Ryder, Potter Valley.*

Am of the opinion that it pays to feed wheat to work animals, and cracked wheat to milch cows. It is profitable to feed wheat to swine and cattle when they can be sold for  $4\frac{1}{2}$  or 5 cents. Farmers in this county have raised wheat, hogs, and cattle at a loss this year, and it is generally conceded that it does not pay the farmer to market his wheat at one cent per pound.

With wheat at \$0 81 to \$1 07, hogs at  $3\frac{1}{2}$  cents, and cattle at 4 cents, it will not pay growers to feed a large proportion of their wheat to cattle and swine. Have had experience in the use of wheat as feed for animals, and see no reason why it should not be used alone, or mixed with other grains, with good results.

Wheat costs me per bushel, in sack, including interest, etc., as follows:

	Per Bushel.
10 bushels per acre .....	\$1 04
15 bushels per acre .....	73
20 bushels per acre .....	57
25 bushels per acre .....	47
30 bushels per acre .....	41

The present value of land upon which wheat is produced at above cost is \$50 per acre. About one tenth of the wheat land in this county now yields 25 bushels per acre, which is necessary to make the growing of wheat profitable at one cent per pound.

*John Crawford, Largo.*

Wheat costs me 43 cents per bushel, which includes 7 per cent interest on value of land, etc. Land upon which wheat can be produced at above cost is valued at \$30 per acre, and should yield 30 bushels to make wheat-growing fairly profitable in this county at one cent per pound. Should judge one fifth now produces the above amount.

Have had experience in the use of wheat as feed for animals, and find it first class, but do not think it would be profitable for growers to feed a large proportion, as we have not the market for our stock.

*Thomas B. Henley, Covelo.*

This locality is sixty miles from a railroad, consequently no grain is sent to the city market. There is a local flouring mill, which manufactures all the flour consumed here.

Fifteen bushels per acre would make wheat-growing in this county fairly profitable, while the average yield is about 20 bushels per acre.

My experience proves that wheat makes good feed for horses, hogs, and poultry.

*H. C. Waugh, Talmage.*

Taking 20 bushels per acre (any less will not pay here with land valued at \$50 per acre), wheat costs me per bushel in the sack, including interest upon value of land at 7 per cent, very near 50 cents.

Probably one half of the wheat land in this county now produces 30 bushels per acre, which would be necessary to make wheat-growing profitable at one cent per pound. Land that will produce 30 bushels per acre cannot be purchased for less than \$100.

With hogs at 4 cents per pound, it would be better to let them harvest



the wheat. If the hogs are well grown to start with, there is more money in thus disposing of one's wheat.

Our greatest drawback, in my opinion, is due to the railroad company. For instance, we have to pay \$3 25 per ton, or \$32 50 per carload, on wheat to Petaluma, our best market. We have reasons to believe that they bring hay and other products from Petaluma and San Francisco for \$17 or \$18 per carload.

#### MONTEREY COUNTY.

*John Iverson, Chualar.*

At 12 bushels per acre, wheat costs me 50 cents per bushel, which includes interest at 7 per cent upon value of land, the present price being from \$25 to \$40 per acre.

Land should yield from 12 to 20 bushels per acre to make wheat-growing fairly profitable at one cent per pound, and probably in a fair season the wheat land in this county would average the above amount.

There is no question about wheat being a first-class feed, either rolled, soaked, or steamed. The only trouble is it would revolutionize all former methods of farm life, and people would have to begin anew.

Do not think it would be more profitable for growers to feed a large proportion of their wheat, as prices of beef cattle are depressed, and of hogs not much better. As long as the railroad company charges more to ship wheat to San Francisco (one hundred miles) than it costs from New York to Liverpool, no disposition can be made of our wheat that will insure growers warranted returns.

If there is no chance for cereals to go up, then transportation must come down, or farming cease. Let the Government pass laws that transportation companies must abide by—such laws that it shall be unlawful to charge more for transporting freight going south than for that going north, or *vice versa*, or to charge more to move freight going east than for the same distance going west. Nothing can save farming industries except the lowering of transportation charges, together with a possible Isthmus canal to bring us nearer to market.

*D. McKinnon, Salinas.*

It costs me 56 cents per bushel in the sack to raise  $16\frac{2}{3}$  bushels per acre. This includes interest on value of land, etc. One half of this county will average 17 bushels per acre, and the other half 13 bushels. The present price of good wheat land is \$60 per acre, and in order to make wheat-growing fairly profitable in this county at one cent per pound, land should yield 20 bushels per acre.

Have had experience in feeding wheat to hogs, and find it puts more fat upon them than any other kind of grain. Four pounds of wheat will make one pound of pork. It would be more profitable for growers to feed a large proportion of their wheat to swine, and a small amount to milch cows. At present it would pay, but do not know how long it will last.

After the Civil War we were a prosperous people, but the war was followed by all kinds of trusts and monopolies, which secured a corner on what we bought. The producer by raising good crops and getting fair prices could stand it then. Now we have the reverse. We have new competitors in the British Indies and Argentine Republic, with

whom we cannot compete, and are for the future shut out of the English market as far as wheat is concerned. At the present price of hogs, we can feed our wheat to them and make a small profit; also, could feed it, when mixed with other grain, to milch or dairy cows, but in doing so it would have a tendency to glut the market, as would follow in anything we might apply it to.

What we want is cheap freight and to crush the trusts as much as possible. Oleomargarine has a depressing influence on our dairy business. There is no law regarding its coming into our State in competition with pure butter. The law-makers can help us, as at present wheat cannot be raised at a profit.

*Edward Berwick, Monterey.*

Wheat is a very desirable hog feed, especially in conjunction with waste garden and orchard products.

With hogs at 5 cents per pound, I think it would be more profitable for growers to feed a large proportion of their wheat, and market swine thus fattened. When fed to cattle, results are very doubtful.

Open the Nicaragua canal, to be run by the Government at cost, and we will be given an even chance with the Argentine Republic in reaching the European market. Anything that tends to give the farmer a cent or two more profit, relieves the situation. It gives him a chance to buy goods and start the wheels of trade, so that the mechanic gets a chance to eat more wheat and farm produce. As it now is, the farmer has nothing to buy with, consequently all trade is at a standstill.

*William Pinkerton, Pleyto.*

Wheat costs me per bushel in the sack, which includes interest at 7 per cent upon value of land, as follows:

	Per Bushel.
10 bushels per acre .....	\$0 35
15 bushels per acre .....	27 $\frac{3}{4}$
20 bushels per acre .....	21 $\frac{1}{2}$
25 bushels per acre .....	19 $\frac{1}{2}$
30 bushels per acre .....	17 $\frac{3}{4}$

Land should yield 15 bushels per acre to make the growing of wheat at one cent per pound fairly profitable in this county. With the exception of last year, over one half of the wheat acreage yielded this amount. Land upon which wheat can be produced at above cost is valued at \$15 per acre.

I think it would be more profitable for growers to feed a large proportion of their wheat (ground), and market cattle and swine thus fattened.

Experience shows me that by grinding half wheat and half barley together makes the food go at least one third further, and the team will do the same work and keep in as good condition. What little I have fed to hogs and cattle gives good satisfaction, and I see no reason why wheat should not be so used, either ground or crushed. I believe the only method to use up the surplus wheat is to feed it more extensively, putting only first quality upon the market. Cattle and hogs always bring good prices. I advocate very strongly the spaying of heifer calves and sow pigs; the benefit will be seen when commencing to feed them.

## MERCED COUNTY.

*H. C. Wolfson, Merced.*

As your questions are rather difficult to answer, have concluded to submit a few statements of my actual experience in farming. My farm consists of 2,572 acres—1,800 acres being first-class, the balance being creek and second-class land, which I purchased in 1879 at \$20 per acre. Eight or ten years after this land was valued at from \$40 to \$50 per acre. My main product is wheat, some barley, about fifty to one hundred head of pork hogs, and butter—an increase from eight to twelve cows. Have attended strictly to business, and conducted everything in a very saving manner. No money has been spent extravagantly, or by mistakes; am working on my own capital, hence no interest.

Capital invested, 2,572 acres at \$30 per acre.....	\$77,160 00
Stock, seed, machinery, etc. ....	11,700 00
Total.....	\$88,860 00

On this investment I made from October, 1886, to October, 1891, nearly 8 per cent per year. The price received for my wheat was \$1 33 per hundred; at \$1 per hundred would have made  $2\frac{3}{4}$  per cent. On the same farm for 1894, sold my wheat at 75 and 80 cents, and found myself a little behind.

In 1892 I bought a farm close to Merced—1,360 acres for \$33,000. In 1893 my crop consisted of hay, barley, and wheat, of which the latter was the principal portion, and sold at \$1 per hundred, which netted me  $6\frac{1}{2}$  per cent on my investment. This year I am \$1,300 behind, rating the wheat at 75 cents per hundred.

In regard to the feeding of wheat I have had some experience, and calculate it takes five pounds of wheat to make one pound of pork.

Must say that I am at a loss to know what to do, but see no other way than to come down to rigid economy in County, State, and Government affairs. Our extravagant ways of doing business must cease, or we will go down with the tide.

*M. C. Burchell, Plainsburg.*

Wheat costs me per bushel in the sack, including interest at 7 per cent upon value of land, 25 cents if the yield is 20 bushels per acre. The present value of wheat land is \$40 per acre.

To make wheat-growing fairly profitable in this county at one cent per pound, land should yield 21 bushels per acre, but only 50 per cent of the wheat land now yields this amount.

Have had no experience in the use of wheat as feed for animals, but at present prices think it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

*John Swan, Livingston.*

The following figures upon cost per bushel of wheat in sack include 7 per cent interest upon value of land, etc.:

	Per Bushel.
10 bushels per acre .....	\$1 00
15 bushels per acre .....	80
20 bushels per acre .....	75
25 bushels per acre .....	60
30 bushels per acre .....	50



Two thirds of the wheat land in this county now yields three sacks per acre, which makes wheat-growing fairly profitable at one cent per pound. The present price of wheat land in this county is from \$10 to \$40 per acre.

Have had experience in the use of wheat as feed for animals, and see no reason why it should not be so used, either alone or mixed with other grains. With wheat at present prices, I think it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

#### NAPA COUNTY.

*J. R. L. Hardin, Pope Valley.*

My average yield of wheat per acre is 25 bushels, which cost me, including interest, etc., about 48 cents per bushel, upon land the present value of which is \$50 per acre.

Land in this county should produce 25 bushels per acre to make wheat-growing fairly profitable at one cent per pound, and I believe the whole county of Napa now yields this amount.

Have had experience in feeding wheat to swine, which should bring very close to 5 cents per pound to make it profitable with wheat at 1 cent per pound. At present prices I do not think it would pay growers to feed a large proportion of their wheat, and market cattle and swine thus fattened, as stock is cheap in proportion to grain.

Am now feeding hogs, I believe, at a loss, unless price advances. Upon the wheat I disposed of at home I came out a little ahead, but lost on that shipped.

From observation, I have come to the conclusion that the only prosperous farmers at present are those on small places, of from 60 to 100 acres, according to fertility. The large farms require much hired help; there always being more or less loose ends and incompetent men, which means needless waste, wear, and tear. I believe a live man, on a place where he can do nearly all the work himself and raise a variety of products, stock, and poultry, can make money at present prices, especially if he produces what he can find a home market for. On the other hand, I believe the large farms that are not close to market are sure to become bankrupt, unless prices go to something like \$1 25 per hundred.

*J. R. Johnston, Monticello.*

If the yield of wheat is 25 bushels per acre, it costs me 55 cents per bushel at Port Costa. The present price of land upon which wheat is produced at above cost is \$50 per acre. In this part of the county, land should yield 30 bushels per acre to make wheat-growing profitable at one cent per pound. A very small proportion now yields this amount, as it is mostly all winter-sown.

I have fed wheat to hogs, with satisfactory results. I weighed the wheat fed, and when hogs were sold found my wheat brought  $1\frac{1}{4}$  cents per pound. Have had no experience with cattle. Feeding wheat to hogs this season has been profitable, but in all probability it will be overdone another season.

The wheat grower must have relief, or he cannot hold out with such odds against him. There must be a cheapening in the cost of production, and that means a reduction in the wages of hired help. We must

also have cheaper transportation; also more economy practiced in the management of the Government—National, State, and County—so as to lessen the burden of taxation. We must be fully protected from combines, trusts, and rings, which are organized for the purpose of making the farmer pay whatever price they may ask. Money must be had at cheaper rates of interest, and last of all, the California farmers must practice more economy than they have done, and look closer after the small details of the farm.

## PLACER COUNTY.

*E. J. Sparks, Lincoln.*

What the farmers most need at present is a canal across the Isthmus, cheaper freight to Liverpool, and the doing away with combines, milling trusts, and stock boards, or else we will have to quit the business.

Wheat costs me per bushel in the sack, which includes interest, etc., as follows:

	Per Bushel.	Value of Land
10 bushels per acre .....	\$0 64½	\$20 00
15 bushels per acre .....	56	25 00
20 bushels per acre .....	35	30 00
25 bushels per acre .....	40	35 00

With land yielding 25 bushels per acre, a profit of \$4 98 could be realized with wheat at one cent per pound. Probably one tenth of the wheat land in this county now produces this amount.

Have had experience in feeding wheat to swine, but find it will not pay, as it takes six pounds of wheat to make one of pork.

*Peter Ahart, Lincoln.*

A very small proportion of this county is devoted to the raising of grain, fruit-growing being the leading industry. With a yield of 20 bushels per acre, wheat costs me 25 cents per bushel in the sack. Land in this county should yield 15 bushels per acre to make the growing of wheat profitable at one cent per pound. It would pay growers to feed wheat, providing they can get 4 cents per pound for hogs. Five pounds of wheat will make one pound of pork. Do not think it would pay to feed to cattle, there being so much grass feed.

*E. C. Rogers, Sheridan.*

Land in this county should produce 20 bushels per acre in order to make wheat-growing profitable at one cent per pound. Only one third of the land now produces this amount.

Have fed wheat to milch cows, hogs, and horses, with satisfactory results. Two quarts of wheat is as good as four quarts of barley, or six quarts of bran.

I think at present prices it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

## SACRAMENTO COUNTY.

*Joseph Sims, Union House.*

It costs me to raise 10 bushels of wheat per acre, 81 cents per bushel; 15 bushels, 57 cents; 20 bushels, 49 cents; 25 bushels, 42 cents; 30 bushels, 39 cents. These figures include interest at 7 per cent upon value of land. The present price of land that will produce wheat at

above cost is from \$25 to \$50 per acre. Land should yield from 25 to 30 bushels per acre annually to make the growing of wheat profitable in this county at one cent per pound. I know of no land that now produces this amount.

Regarding growers feeding a large proportion of their wheat, and marketing cattle and swine thus fattened, would say that the profits depend to a great extent upon prices realized.

Let each farmer raise a diversity of crops, and do his own thinking. Rules cannot be laid down to govern farmers as a class; each must select his own crops and be governed by his experience, or the experience of others in immediate neighborhood.

At present prices, do not think any one in California can raise grain at a profit upon land costing from \$25 to \$50 per acre.

*J. Reith, Union House.*

Wheat costs me per bushel in the sack, which includes 7 per cent interest upon value of land, as follows:

	Per Bushel.
10 bushels per acre .....	\$0 85
15 bushels per acre .....	62
20 bushels per acre .....	50
25 bushels per acre .....	43
30 bushels per acre .....	38

The present value of land upon which wheat is produced at above cost is \$30 per acre, and in order to make the growing of wheat profitable in this county at one cent per pound, the yield should be 25 bushels per acre. From 10 to 15 per cent now yields this amount.

Have had no experience in feeding wheat, except to work horses, and am of the opinion it is stronger and better than barley or oats. Think growers would find it profitable to feed a large proportion of their wheat to swine for market purposes. Although not general, yet since the price of wheat has gone so low, many farmers in the county have adopted this plan of feeding wheat to work horses in preference to barley. With both at same price per cental there can be no doubt as to wheat being the more profitable feed. Have been feeding it to work horses the past year. Do not mix with other grain, but soak the wheat about twelve hours before feeding. Think it would be better to crush the wheat before feeding, as is the practice with barley.

#### STANISLAUS COUNTY.

*O. M. Henry, Modesto.*

Wheat costs me per bushel in the sack, including 7 per cent interest upon value of land, 33½ cents if the yield is 10 bushels per acre; 22½ cents if 15 bushels; 17 cents if 20 bushels; 14 cents if 25 bushels, and 12 cents if 30 bushels. Thirty dollars per acre is the present price of land upon which wheat is produced at above cost.

Land in this county should yield 12 bushels per acre to make wheat-growing profitable at one cent per pound. About one fifth of the wheat land now yields this amount.

Have had no experience in the use of wheat as feed, but am going to feed 25 per cent of what I raise.

Seven ranches out of ten are mortgaged from raising wheat. Divide crops, practice economy, and money will come at all times, and the mortgages will disappear.



*L. A. Richards, Grayson.*

The figures given below are based upon twenty years' experience in this locality, but there is probably not to exceed 20 per cent of the wheat-growing portion of this State that can produce wheat at these figures, which includes 7 per cent interest upon value of land, wear and tear of equipment, etc.:

	Per Bushel.
10 bushels per acre .....	\$0 56
15 bushels per acre .....	44
20 bushels per acre .....	38
25 bushels per acre .....	34 <sup>4</sup> / <sub>10</sub>
30 bushels per acre .....	32

With land costing \$30 per acre, and a yield of 15 bushels, wheat can be grown profitably in this county at one cent per pound. Twenty per cent of the land now yields this amount.

Wheat undoubtedly is a good feed for animals, but am not certain that it could be fed at a profit.

*C. N. Whitmore, Ceres.*

With a yield of 10 bushels per acre, wheat costs me 56 cents per bushel, which includes interest at 7 per cent, etc. Have had no experience in feeding wheat to stock. What the farmers most need at present is water for irrigation purposes, which would permit the raising of a diversity of crops.

I made calculation that one acre would produce 10 bushels, which is about the average in this county.

The cost of plowing, seeding, and harvesting one acre is .....	\$3 38
Seven per cent interest on land valued at \$30 per acre .....	2 10
	<hr/>
Ten bushels wheat, at 75 cents per 100 pounds .....	\$5 48
	4 10
	<hr/>
Loss .....	\$1 38

Land should yield at least 15 bushels per acre to make the growing of wheat profitable in this county, at one cent per pound.

*A. L. Cressey, Modesto.*

Including 7 per cent interest upon value of land upon which raised, also wear and tear of equipment, wheat costs me as follows:

	Per Bushel.
10 bushels per acre .....	\$0 39
15 bushels per acre .....	29
20 bushels per acre .....	24

The present value of land upon which wheat is raised at above cost is \$10 per acre. Ten bushels per acre should be the yield to make wheat-growing fairly profitable in this county. A very small proportion of the land produced this amount during the last two years.

Would urge the early completion of one of the Panama canals, preferably the Nicaragua, which should be built by the United States Government, and owned by it absolutely; also some national legislation in favor of American shipping, so that all American products may be carried to market in American vessels; thereby putting us within forty days of European market, and doing away with the expense of grain bags.

## SANTA CRUZ COUNTY.

*Ernest Werner, Watsonville.*

In this locality wheat-growing does not cut any figure, as the large ranches are around Salinas, King City, and San Lucas.

Have had good results in feeding wheat to swine, and with the price of hogs at 4 or 5 cents, think it would be more profitable for growers to feed a large proportion of their wheat.

In the Pajaro Valley, land should yield 50 bushels per acre to make wheat-growing profitable at one cent per pound. A very small proportion now yields this amount.

The present value of land upon which wheat is produced is from \$150 to \$200 per acre.

*A. P. Roach, Watsonville.*

Wheat costs me per bushel in the sack, which includes interest at 7 per cent upon value of land, as follows:

	Per Bushel.
10 bushels per acre -----	\$1 26
15 bushels per acre -----	89½
20 bushels per acre -----	71½
25 bushels per acre -----	60½
30 bushels per acre -----	53

The present value of land upon which wheat is raised at above cost is \$100 per acre. Less than one third of the land in this county now produces 37½ bushels per acre, which amount would have to be raised to make the growing of wheat fairly profitable at one cent per pound.

Have had no experience in the use of wheat as feed, but believe it would be excellent if mixed with other grain, rolled or ground.

The only advisable means by which farmers can make ends meet is a Government bounty on all staple agricultural products. The competition of newly developed wheat-producing countries; the cost of transportation to our none too numerous and distant markets; the wornout condition of our wheat lands, which now refuse to yield but little over one-half former yield; the high price of unskilled farm labor and high price of fertilizers, which will not justify their use at present prices, render the outlook anything but satisfactory to the producer of this great staple. It is claimed by many that the low price is justified by the lessened cost of production. While this claim may be a fair one in sections where vast areas are farmed by wealthy wheat kings, on the ordinary farms and in the smaller valleys (at least in this valley) there is no reduction in cost, with the exception of a single reduction on twine and sacks, which with the lessened yield makes no difference in the cost. We have to pay the regular \$2 per day for harvest hands and 13 cents per one hundred pounds for threshing. For freight to San Francisco, our only market (100 miles distant), it costs us 17 cents per hundred, which amount would pay cost of transportation from San Francisco to Liverpool.

## SAN BENITO COUNTY.

*James T. Gray, Hollister.*

I see no reason why wheat could not be fed profitably to Essex swine, providing the grinding can be done at home. With a good windmill this can be done.

Would feed to swine only when the grass or grain in the field is scarce. Would only feed to cattle after they have eaten the cream of the stubble field in the fall, to round off. For horses, do not like wheat as a grain.

To raise wheat it costs me per bushel in the sack, which includes 7 per cent interest upon value of the land, as follows:

	Per Bushel.
10 bushels per acre .....	\$0 99
15 bushels per acre .....	70½
20 bushels per acre .....	57¾
25 bushels per acre .....	54
30 bushels per acre .....	50

Land in this county should yield 20 bushels per acre to make wheat-growing profitable at one cent per pound.

*George T. Elliott, Hollister.*

In giving the cost of raising wheat per bushel, I figured from the use of gang plows and headers, the implements in general use in our county, but if steam plows and combined harvesters could be used, the cost would be reduced. The following represents the cost of wheat per bushel, including interest on land:

	Per Bushel.
10 bushels per acre .....	\$0 86½
15 bushels per acre .....	62
20 bushels per acre .....	50
25 bushels per acre .....	43
30 bushels per acre .....	38

In my opinion, land in this county should yield 25 bushels per acre to make wheat-growing fairly profitable at one cent per pound, and should judge that not more than one half now yields this amount.

For twenty years I had a butter dairy, and soon found that winter butter was most profitable. I experimented with several kinds of food, and decided that one bushel of wheat ground with two bushels of barley gave the best results.

Do not believe it would pay growers here to feed a large proportion of their wheat to animals, and market cattle and swine thus fattened. Eastern experiments favor this, but the price of meat there is higher than here. In my opinion, to insure the grower warranted returns, he should cut it for hay, and feed to cattle and sheep. If stockmen would never allow their stock to get low in flesh, their profits would be increased. Have found it so during my twenty years' experience.

Where land is so situated that it can be irrigated, stop raising wheat and raise some perennial forage plant, of which there are several kinds, the best of which for California at present being alfalfa. When once seeded down, the cost is reduced to a minimum and returns are much increased, for it makes a No. 1 pasture for all kinds of domestic animals, including poultry.

*A. J. Clancy, Hollister.*

If the yield is 10 bushels per acre, wheat costs me per bushel in the sack, including interest, etc., 65 cents; if 15 bushels, 55 cents; if 20 bushels, 51 cents; if 25 bushels, 48 cents, and if 30 bushels, 45 cents. The average value of good wheat land is \$30 per acre.

In order to make wheat-growing fairly profitable in this county at



one cent per pound, land should yield from 25 to 30 bushels per acre, and I should judge about 50 per cent now yields this amount.

Have used wheat as feed for horses and swine, and it is excellent used alone or mixed with other grain.

*W. H. Best, Hollister.*

The present price of wheat land in this county is \$45 per acre. Land should yield 17 bushels per acre to make wheat-growing profitable at one cent per pound. Should judge about three fourths of the wheat land in this county now yields this amount. Wheat costs me per bushel in the sack, including interest, etc., as follows:

	Per Bushel.
10 bushels per acre .....	\$0 84½
15 bushels per acre .....	59
20 bushels per acre .....	46
25 bushels per acre .....	38½
30 bushels per acre .....	33½

Wheat is as good as barley for swine if it is rolled and soaked, but is not as good as barley for horses and cattle. I think it would be more profitable for growers to feed a large proportion of their wheat to swine, providing they can get 3 cents per pound for the pork.

What is needed at this time is a division of the large tracts of land into small farms, and with more money in circulation we would not feel hard times as much.

*Thos. Flint, Hollister.*

Wheat costs me per bushel in the sack, including interest, etc., as follows:

	Hills—Per Bushel.	Valley—Per Bushel.
10 bushels per acre .....	\$0 46	\$0 63½
15 bushels per acre .....	34½	46
20 bushels per acre .....	28½	37½
25 bushels per acre .....	24¼	31¼
30 bushels per acre .....	22	28

Land producing wheat at above cost is valued as follows: Hills, \$20; valley, \$40 per acre.

In the use of wheat as feed for animals, I always mix with barley for horse feed, when prices for both cereals are about equal, and find it profitable when thus used.

#### SAN JOAQUIN COUNTY.

*M. T. Noyes, Stockton.*

The California farmer must now compete with the world in the production of cereals, and must look closer after the smaller things than has been done in the past. There was a time when, with a virgin soil and wheat at 1½ or 2 cents per pound, the California wheat farmer could make money rapidly. He then bought his meat of the traveling butcher, his vegetables and fruit in the same manner, and some even bought their butter and eggs. But times have changed, and with the million acres of new land now being brought under cultivation every year in different parts of the world, and all the improved machinery for cultivation, and cheap transportation, no wonder the wheat market is depressed.

Demagogues tell the farmer that the demonetization of silver and the consequent lack of money have caused the decline in prices. Now, I

know that while I have raised considerable wheat in my time, I never sold a pound for silver. I also know that Liverpool is the one place of all the world that takes the surplus wheat and makes the price for the world. Free silver or no free silver, the price of wheat is regulated wholly by its supply as compared to the world's demand.

The most profitable disposition of our wheat, in my opinion, to insure growers warranted returns, would be to feed a greater portion to work animals, fatten cattle and swine, rear poultry, and thus avoid such immense importations as we now have for our own consumption. Have had some experience in the use of wheat as feed for animals, with very favorable results. Would recommend mixing with lighter feed for horses and cattle.

A large proportion of the land in this county now yields 25 bushels of wheat per acre, which makes wheat-growing fairly profitable at one cent per pound. Wheat costs me per bushel in the sack, including interest, etc., 97½ cents if the yield is 10 bushels per acre, 67 cents if 15 bushels, 53 cents if 20 bushels, 42 cents if 25 bushels, and 35 cents if 30 bushels per acre. The present value of land upon which wheat is raised at above cost is \$60 per acre.

*J. D. Huffman, Lodi.*

Wheat costs me 93 cents per bushel if the yield is 10 bushels per acre; 62 cents, if 15 bushels; 46½ cents, if 20 bushels; 37 cents, if 25 bushels, and 30 cents, if 30 bushels. Seventy dollars per acre is the present price of land upon which wheat is produced at above cost, and in order to make wheat-growing fairly profitable in this county at one cent per pound, 30 bushels per acre should be the yield, but not over 25 per cent of the land now produces that amount.

Have had some experience in the use of chopped wheat fed to hogs to fatten for market, and see no reason why it should not be fed when barley is at the present price.

In order to insure the wheat-grower warranted returns, cheaper transportation to European markets must be had. If a large proportion is fed to swine, the present price of pork will not keep up. I believe a fertilizer that could be laid down near where needed, at about \$8 per ton, would increase the yield. Also a shorter line of transit to get wheat to Liverpool markets would be beneficial.

By paying to the producer a bonus of a certain amount per bushel or hundredweight up to a stated amount produced, say 4,000 or 5,000 bushels, would protect the small growers. Then instead of the farmers having to bear the burden of taxation, a large proportion would be placed elsewhere. If these suggestions are not heeded very soon, there will be but a few producers and a multitude of monopolies of all kinds.

*E. G. Williamson, Stockton.*

Wheat land is worth \$30 per acre, and, counting everything, it costs me about 61 cents per bushel to raise 10 bushels per acre; 15 bushels, 45 cents; 20 bushels, 34 cents; 25 bushels, 30 cents, and 30 bushels, 21 cents.

To make wheat-growing profitable at one cent per pound, land should yield 15 bushels per acre, and in this county probably one third now yields this amount.

There is no reason why wheat should not be used as feed for animals. I think at present prices it would be profitable to feed a large proportion of our wheat to swine for market purposes; for cattle, I cannot say.

The wheat business, under present conditions, must be conducted in connection with the stock business, in order to be profitable.

*Arthur Thornton, New Hope.*

With a yield of 30 bushels to the acre, wheat costs me per bushel in the sack 38 cents, which includes interest, etc.

Eighty dollars per acre is the present price of land upon which wheat is produced at above cost, and in order to make the growing of wheat profitable in this county at one cent per pound land should yield 40 bushels per acre.

In the use of wheat as feed for swine, I mix, say one third wheat and two thirds crushed barley. This I find more profitable than feeding barley alone. At present there is no way to reduce the surplus other than to feed to cattle and swine.

#### SANTA BARBARA COUNTY.

*Ellwood Cooper, Santa Barbara.*

Have not grown wheat since 1882. That year I had 327 acres yield 5,926 sacks, of 114 pounds each, equal to 18 sacks per acre, or say 2,052 pounds. Supposing the seed could have been bought at one cent per pound, the result would be as follows:

100 pounds to the acre, 327 acres, at \$1.....	\$327 00
Plowing 327 acres, at \$2 50 per acre.....	817 50
Seeding and harrowing.....	327 00
Threshing 671,000 pounds, at 16 cents per 100.....	1,073 00
Sacks, 5,925, at 8 cents.....	474 00
Hauling to wharf.....	335 00
Total.....	\$3,353 50
Cost per acre, \$10 25.....	
Proforma sale of 2,052 pounds, at 1 cent.....	\$20 52
Freight to San Francisco.....	\$2 50
Wharfage.....	1 00
Commission, 2½ per cent.....	50
	4 00
	\$16 52
Cost per acre.....	\$10 25
7 per cent interest on \$100.....	7 00
	17 25
Loss per acre.....	\$0 73

The above prices are what I have paid and charged. Thirty bushels per acre would cost 60 cents per bushel in sack, including interest, etc.

The present value of good wheat land is \$100 per acre, and the yield should be 40 bushels to make wheat-growing fairly profitable in this county at one cent per pound. About one tenth of the land now produces this amount.

Have fed wheat to horses and mules, and they did fairly well on it when at hard work. Barley is more easily grown, a more certain crop, and a better feed. I think it would be profitable for growers to feed a large proportion of their wheat to hogs, but not to cattle.

Vary the farming, raise hogs, sheep, cattle, a few horses, and the feed



necessary to maintain them. I would suggest that no farming be undertaken that requires hired help. Do your own work, raise everything needed for support, and sell such crops as are profitable.

*J. W. Torrance, Santa Ynez.*

Have had experience in the use of wheat as feed for animals, and find it is worth more in the head for feed than in the sack, thus saving expense of threshing.

In the future I shall head my wheat, shelter it, and feed to hogs, as they, or any other stock, masticate it better this way than in the grain.

*J. J. Hobson, Ballard P. O.*

With a yield of 20 bushels per acre, wheat costs me 35 cents per bushel, upon land the present value of which is \$30 per acre. Three fourths of the wheat land in this county now produces 25 bushels per acre, which would make wheat-growing profitable at one cent per pound.

Have had experience in the use of wheat as feed for cattle and swine, and find it superior to any other feed. When mixed with barley or oats, it is excellent for horses.

At present prices, I think it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

In my opinion, the selling of more wheat direct to consumer would insure the grower warranted returns. I firmly believe the Government ownership of railroads would greatly benefit all people in the transportation of products.

#### SOLANO COUNTY.

*R. J. Curry, Dixon.*

I would like to state here that I do not think any one can make an estimate of the cost of production of wheat that will answer for producers generally. For instance, I have now forty mules and six men which have been unable to do any field work during the past three weeks, owing to incessant rains. Who pays for their board and other expenses attached to keeping a force like that doing nothing? Surely the crop. If a farmer could hire his work done at the figures given in my estimate, it would be to his interest to do so. The difficulty is that the necessary force cannot be secured when wanted. The wear and tear of buildings and fences must be met from some source. I should say an allowance of \$1 per acre in grain would not be too much for this deterioration. The exhaustion of the soil is also worthy of consideration.

Wheat costs me per bushel in the sack, including interest on value of land, as follows:

	Winter-sown.	Summer-fallow.
10 bushels per acre .....	\$1 08 $\frac{1}{2}$	
15 bushels per acre .....	73 $\frac{3}{4}$	
20 bushels per acre .....	56 $\frac{5}{8}$	\$0 87 $\frac{1}{2}$
25 bushels per acre .....	47 $\frac{1}{2}$	71 $\frac{3}{4}$
30 bushels per acre .....	40 $\frac{1}{2}$	60 $\frac{3}{4}$

Sixty dollars per acre is the present value of land upon which wheat can be produced at the above cost. The land near Dixon now yields 20 bushels per acre if winter-sown, and 30 bushels per acre if summer-fallowed, which makes wheat-growing fairly profitable in this section at one cent per pound.

Have had no experience in the use of wheat as feed, except to hogs. At present price (3 cents) of hogs do not think it would be profitable for growers to feed a large proportion of their wheat to swine for market purposes.

I submit the following estimate on cost of 10 bushels per acre, winter-sown—land assessed at \$60 per acre:

Interest at 7 per cent.....	\$4 20
Tax—\$1 56 per \$100.....	93
	<hr/>
	\$5 13
Interest and taxes.....	\$5 13
Plowing.....	2 00
Harrowing twice.....	50
100 pounds seed cleaned, bluestoned, and sowed (present price).....	1 00
Four sacks, at 6½ cents.....	26
Harvesting.....	1 75
Hauling and weighing.....	21
	<hr/>
Cost per acre.....	\$10 85
Or \$1 08½ per bushel.	

These figures represent about what the work could be hired done for. By allowing for more bags, more for hauling and weighing, we have:

For a yield of 15 bushels, winter-sown.....	\$11 07
For a yield of 20 bushels, winter-sown.....	11 32
For a yield of 25 bushels, winter-sown (\$2 per acre for harvesting) ..	11 83
For a yield of 30 bushels, winter-sown (\$2 per acre for harvesting) ..	12 08½

When we come to summer-fallow, two years' interest and taxes must be allowed; also, at least \$1 per acre for extra plowing, etc.

#### *E. C. Dozier, Rio Vista.*

Have had considerable experience in the use of wheat as feed for animals, and find it excellent to fatten swine. When used alone for work horses it is heating, but is a good strong feed when mixed with barley.

In my opinion it would be more profitable for growers to feed a large proportion of their wheat to stock, and market cattle and swine thus fattened, providing large abattoirs are established in the State to insure a good market.

Land should yield 35 bushels per acre to make wheat-growing in this county profitable at one cent per pound. A portion of the Montezuma Hills now produces that amount.

At a yield of 25 bushels per acre, the cost per bushel, including interest on value of land, is 45 cents.

#### *J. B. Hoyt, Bird's Landing.*

With a yield of 25 bushels per acre wheat costs me \$1 10 per 100 pounds in sack on ranch; 30 bushels, 95½ cents. The land is valued at \$65 per acre, and should yield, in order to make wheat-growing profitable at one cent per pound, 35 bushels per acre. A portion of Dixon, Rio Vista, and Montezuma townships now yield this amount. Have fed rolled wheat to horses and mules, three sacks of barley to two of wheat. To milch cows, half shorts and half wheat, and find it is excellent. At present prices, I think it would be more profitable for growers to feed a large proportion of their wheat to cattle and swine.

Have just dressed thirteen pigs that were fed on rolled wheat. They were a cross between a pure Berkshire and Poland-China. Their age varied from eight to twelve months. The last three months they were fed entirely on wheat, the thirteen eating ten sacks of rolled wheat in eight days. Those eight months old dressed 225 to 240 pounds; those twelve months old dressed 340 to 380 pounds. This is the first time I ever fed wheat, and is the greatest gain in weight ever had on this ranch. I am stopping milch cows with wheat and shorts, and they are doing fine.

Our soil is adobe loam, not of the black character. It costs me \$1 35 per ton to deliver wheat at Port Costa. The last two seasons we have averaged from 35 to 38 bushels per acre, some as high as 50 bushels. Twenty-five bushels would be a short crop in the Montezuma Hills.

#### SUTTER COUNTY.

*George Ohleyer, Yuba City.*

Fifty per cent of the wheat land in this county now yields 25 bushels per acre, which makes wheat-growing fairly profitable at one cent per pound.

Wheat costs me per bushel in the sack, including 7 per cent interest on value of land, etc., 46 cents for 10 bushels to the acre; 32 cents for 15 bushels; 25 cents for 20 bushels; 24 cents for 25 bushels; and 18 cents for 30 bushels. The present value of land upon which wheat is produced at cost named is \$50 per acre.

Am feeding wheat to hogs, and find it excellent and profitable for fattening, and see no reason why it should not be so used. At any price below one cent per pound I think it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

In order to insure the grower warranted returns, my advice would be to reduce the surplus by feeding; also, to obtain a wider market for the meat product. A limited experience in 1893 in feeding hogs from the granary, 75-cent barley brought \$1 10 converted into pork, the pork selling at \$5 50 per hundredweight. This year, pork being cheaper, the showing will be less, although a fair price for wheat and barley will be realized. I am feeding this season more of both wheat and barley to hogs, but as I have not "cleaned up" yet cannot give results with any degree of accuracy. Still I hope to realize one cent per pound for my wheat.

The combined harvester and other advances in wheat culture greatly cheapen the cost of production of the cereal in our interior valleys, and while the estimates given above are very low, there is still a living in the business if every advantage is availed of by feeding, etc. I have had no experience in feeding wheat other than to swine. I might add that a neighbor fed wheat to swine, then sold at \$4 40 on foot, and figures \$1 25 per hundredweight realized for his wheat. This, I think, will excel my own returns, because of the lower price now prevailing, although I secured the same price for fifty head at the same time.

*H. Luther, Live Oak.*

The present value of good wheat land in this county is \$40 per acre, which should yield 15 bushels per acre to make the growing of wheat



profitable at one cent per pound. Fifty per cent of the wheat land now yields this amount.

It would pay growers, at present prices, to feed a large proportion of their wheat, and market cattle and swine thus fattened.

The only thing that would help the farmers at present would be the borrowing of money at a lower rate of interest. Many owe nearly as much as their farms are worth, and interest is one of the hardest obligations they have to meet.

I submit the following figures upon cost of wheat per bushel in sack, including interest at 7 per cent, but not transportation, which costs  $12\frac{1}{2}$  cents to tide water; unloading and weighing, 1 cent; total,  $13\frac{1}{2}$  cents per one hundred pounds:

	Per Bushel.
10 bushels per acre .....	\$0 75
15 bushels per acre .....	55
20 bushels per acre .....	40
25 bushels per acre .....	35
30 bushels per acre .....	30

## SONOMA COUNTY.

*Robert Crane, Santa Rosa.*

Have had some experience in feeding wheat to swine, and find it is more profitable to sell wheat at one cent per pound than to feed to swine, unless 5 or 6 cents per pound can be realized from the sale thereof. The most profitable feeding of wheat in this county is to poultry, which will give good returns.

Wheat costs me per bushel in the sack, including 7 per cent interest on value of land upon which raised, etc., as follows:

	Per Bushel.
10 bushels per acre .....	\$0 90
15 bushels per acre .....	78
20 bushels per acre .....	72
25 bushels per acre .....	66
30 bushels per acre .....	60

From \$30 to \$75 per acre is the present value of land upon which wheat is produced at cost named above.

Land in this county should yield 60 bushels per acre to make wheat-growing profitable at one cent per pound; but only a small proportion now yields this amount.

*E. W. Davis, Santa Rosa.*

Wheat costs me per bushel in the sack, including 7 per cent interest upon value of land, as follows:

	Per Bushel.
10 bushels per acre .....	\$0 85
15 bushels per acre .....	63
20 bushels per acre .....	60
25 bushels per acre .....	57
30 bushels per acre .....	55

The present price of land will average \$70 per acre, and in order to make wheat-growing fairly profitable at one cent per pound, the land should produce from 23 to 25 bushels per acre; but not more than 10 per cent of the land in this county now yields this amount.

I have had successful experience in the use of wheat as feed for animals, and there are many good reasons why it should be so used. Without any doubt, at present prices it would be more profitable for

growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

In order to insure the grower warranted returns, less wheat must be produced and more fed, the best only to be used for milling, as much inferior wheat is mixed with flour. Let farmers everywhere go more into mixed farming. Feed more live stock and poultry; consume more of their own products, and less of foreign and domestic canned goods. The live stock of the United States ought to be marketed in preserved form in almost every country on earth. Our skill in preparing, as well as producing, ought to put us at the head of all the countries as sellers; therefore, at the bottom of the list as buyers. American agriculture will have to be more profitable, or all its votaries will perish.

#### SAN DIEGO COUNTY.

*J. F. Wood, Berendo.*

Referring to cost of production of wheat, would say that 21 cents per bushel is the minimum for small farms of one half section or less, and 11 cents for large crops on 2,000 acres and over, with 30 bushels per acre, using improved machinery—a thing the small farmers cannot own.

I submit the following estimate, with land at \$20 per acre:

One half section of land .....	\$6,400 00
Eight horses or mules cost .....	400 00
Harness, plows, and harrows.....	225 00
Header and wagon .....	400 00
Other tools and implements.....	150 00
	<hr/>
	\$7,575 00
Wear of machinery, and interest on capital invested .....	\$757 50
Cost of seed and feed .....	224 00
Cutting, stacking, and threshing.....	352 00
Sacks, at 6 cents, and hauling six miles .....	124 80
Board and clothing for family, one year.....	300 00
	<hr/>
	\$1,758 30
Income, at 10 bushels per acre .....	\$1,920 00
Expense.....	1,758 30
	<hr/>
Profit.....	\$161 70

Have had experience in using wheat and barley mixed and crushed together, and find it cheaper and better than barley alone. If crushed, it is better than corn for hogs, and I think at present prices it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened. Two hundred and twenty-five pounds of crushed wheat will add 100 pounds of fat to the hog, if properly fed and watered.

#### TEHAMA COUNTY.

*Frank Houghton, Corning.*

With a yield of 15 bushels per acre (including interest at 7 per cent upon value of land, etc.), wheat costs me 33 cents per bushel. The present value of land upon which wheat is produced at cost named is \$10 per acre. To make wheat-growing profitable at one cent per pound, land should yield from 20 to 25 bushels per acre.

I have been feeding wheat to nine hundred hogs this winter, and sold three hundred head at  $4\frac{1}{4}$  cents, charging myself with 35 cents per

bushel for wheat fed. The  $4\frac{1}{4}$  cents per pound received for hogs will give me a profit on my wheat.

Do not think it would be profitable for growers to feed too much of their wheat, as it will have a tendency to reduce the price of stock.

An Act of Congress authorizing the free and unlimited coinage of silver would, in my opinion, double the price of wheat immediately, as I know the price of silver controls the price of wheat.

For the past three years I have not been able to make the growing of wheat profitable.

*R. N. Blossom, Red Bluff.*

Have had experience in the use of wheat as feed for animals, and see no reason whatever why it should not be so used, either alone or mixed with other grain, and am satisfied, at present prices, it would be more profitable for growers to feed a large proportion of their wheat, and market cattle and swine thus fattened.

Wheat costs me per bushel in the sack, which includes interest upon value of land at 7 per cent, as follows:

	Per Bushel.
10 bushels per acre -----	\$0 78
15 bushels per acre -----	50
20 bushels per acre -----	40
25 bushels per acre -----	32
30 bushels per acre -----	26

The present value of valley land, on line of railroad, is \$50 per acre. Bald hills, ten miles away, \$25; if summer-fallowed is equally as good.

Land should yield 25 bushels per acre to make wheat-growing fairly profitable in this county at one cent per pound. A very small proportion of wheat land now yields this amount.

I farm in the hills. Harvested this year seven sacks to the acre, which netted me 65 cents per hundred. There is no profit at present in the raising of wheat.

I believe that tariff legislation and overproduction have had much to do with the condition of wheat to-day.

The country was in a fair way to demonstrate that we could produce our own sugar, but legislation knocked it out. There are none so blind as those who will not see. Experience is a good teacher. We are getting it now.

I favor Mr. David Lubin's plan, the adoption of which and the building of the Nicaragua Canal would place this country in a prosperous condition.

TULARE COUNTY.

*John Tuohy, Tulare.*

At present am not engaged in wheat-raising, but with proper cultivation consider an average crop for this county to be 6 sacks, or 14 bushels; with an average value of wheat land, \$20 per acre. One in every six is an off year, not counted in average crop.

On unirrigated land a family should own 640 acres; on irrigated or naturally damp land, 240 acres. On the unirrigated land one third should be summer-fallowed each year, one third winter-plowed, and one third volunteer. Forty acres of the 640 should go to buildings and pasture. It will take \$4,000 in improvements, teams, wagons, etc., to equip 640 acres. On such a farm, adding what can be realized from



the sale of eggs, chickens, hogs, etc., an American family can live comfortably; on less, they would lack some of the comforts. This is observation, not systematic calculation. I know of no farmer who keeps a systematic account of incidental expenses, but believe such an account would be of advantage. I think the price of wheat is down to stay. In combination with other feed, such as alfalfa, wheat at present prices could be profitably fed.

Am a convert to Mr. Lubin's theory, that wheat, as much as any other product or industry, deserves governmental stimulation. It assists in adjusting with foreign countries the balance of trade, and I think if wheat growers had one half the perseverance the silver men have in advocating their rights, the Government would give this industry more attention and respect.

*R. O. Newman, Visalia.*

Wheat costs me, including interest upon value of land, as follows:

	Per Bushel.
10 bushels per acre .....	\$0 58
15 bushels per acre .....	38½
20 bushels per acre .....	29
25 bushels per acre .....	23½
30 bushels per acre .....	19½

The present value of land upon which wheat is produced at cost named above is \$40 per acre. Land should yield 15 bushels per acre to make wheat-growing profitable at one cent per pound. About one fourth of the wheat land in this county now yields this amount, the average being 11 bushels.

I think wheat could be used with other grains for feed for swine; and for horses and cattle, mixed with cut hay or straw, and dampened.

Cannot see how the use of wheat for feed for stock can help us out of the dilemma, as it would interfere with the price of other farm crops, and thereby react on us in a very short time. Do not think the trouble lies in the amount of wheat produced. The world's crop is no greater than an average yield. I lay all the depression in prices to the financial policy of our Government. The single gold standard has increased the purchasing power of the dollar, and unless there is some change in the management of our finances by the Government, so as to give a greater volume of currency, am unable to see any prospect for better prices for wheat in the future.

When we come to consider the condition of the San Joaquin farmers it is deplorable. Our wheat yield on an average is about 11 bushels per acre, and it costs, at present prices of labor and other necessities, about 52 cents per bushel to produce it. Wheat is worth to-day, delivered at our nearest railroad station, 39 cents per bushel. Freight to Port Costa is \$4 50 per ton. We have been promised a reduction of 80 cents per ton on the first of January, but this is a very slight concession compared with the whole.

*James M. McClellan, Hanford.*

Wheat costs me per bushel in the sack, including interest at 7 per cent upon value of land, etc., as follows:

	Per Bushel.
10 bushels per acre .....	\$0 53
15 bushels per acre .....	40
20 bushels per acre .....	31
25 bushels per acre .....	24

Wheat land in this county is worth from \$30 to \$40 per acre, and in order to make the growing of wheat profitable at one cent per pound, land should yield 12 bushels per acre. About one half the wheat land averages this amount.

Have had experience in feeding wheat to hogs, and see no reason why it should not be profitable for growers to feed a large proportion of their wheat, and market swine thus fattened. The trouble with us in this section is that only a few of the farmers own the land which they farm; consequently, the rents absorb nearly all the profits at present prices; which condition of things, together with uncertain rainfall to insure a crop, permits many chances for failure.

In the northern part of the county the land is better and the yield heavier. Many of the farmers are now raising grain at a loss, because each season they think prices will be better.

I submit below some figures taken from the western portion of Fresno County, where I have been farming for five years, beginning in 1889:

	Bushels.
1889, average yield per acre .....	22
1890, average yield per acre .....	24
1891, failure.....	
1892, average yield per acre.....	2
1893, average yield per acre.....	16
Total.....	64
Average yield per acre .....	14 $\frac{1}{2}$
Average price per bushel.....	\$0 39
Cost of farming one acre five years:	
Plowing .....	\$2 50
Harrowing .....	1 25
Seeding .....	1 25
Harvesting.....	6 00
Hauling .....	1 15
Total .....	\$12 15
Value of grain produced in five years on one acre.....	\$24 90
Cost .....	12 15
Return per acre .....	\$12 75
Deducting interest on value of land, \$20, at 7 per cent for five years..	7 00
Net balance per acre .....	\$5 75

Would say in explanation, that only a limited section of this county produces these crops, and that is on overflowed land.

*G. A. Heinlen, Lemoore.*

The land in the San Joaquin Valley is light and does not produce on an average more than 6 or 8 bushels per acre, and the cost of wheat per bushel in the sack is about 60 cents. This will allow a low rate of interest on value of land. From \$10 to \$40 per acre is the present value of wheat land. A very small proportion of this county could raise wheat profitably at one cent per pound, as it would require a yield of at least 20 bushels per acre.

Have had no experience in the use of wheat as feed for animals. It might do to fatten hogs, but not for cattle.

The land in the great San Joaquin Valley is of a light sandy loam and will not produce grain (wheat or barley) without irrigation. The surface of the ground dries out very quickly, and to produce wheat often requires two or three irrigations during a season. Irrigation

damages the land very materially, as it leaches it out and causes all minerals to come to the surface, thus destroying vegetation the following year.

The surest and most successful crop we raise is alfalfa, which with irrigation will yield from 4 to 8 tons per acre per annum, besides furnishing pasture for stock. Every time the hay is cut and removed, the land must be irrigated (flooded with water).

Our best crop is Egyptian corn. The land is irrigated, and corn planted. No further attention is required until it is to be gathered. It will yield from 1 to 2 tons per acre. Indian corn requires more care and cultivation, while the yield is about the same as that of Egyptian corn.

As the soil in this county is light and sandy, the products that get their moisture deep in the ground are more sure to bring a return than those that receive nourishment from top of the ground, such as wheat and barley.

*J. W. Davis, Porterville.*

Wheat costs me in the sack, as follows:

	Per Bushel.
10 bushels per acre -----	\$0 40
15 bushels per acre -----	38
20 bushels per acre -----	36
25 bushels per acre -----	35
30 bushels per acre -----	34

The present value of the land upon which wheat is produced at above cost is from \$8 to \$15 per acre, which should yield, in order to make wheat-growing profitable at one cent per pound, at least 12 bushels per acre. On an average one fourth of the wheat land in this county now yields this amount.

Have had experience in the use of wheat as feed for animals, and if mixed with either barley or oats makes a nourishing food.

The greatest drawback we have in this part of the country is the high prices of freight to the seaboard.

*Robert Doherty, Hanford.*

For three years I have used wheat to fatten hogs, and if worth 4 cents on foot, it is more profitable to let them harvest the crop. Feeding more wheat to spring lambs for early market would insure profitable returns.

Wheat costs me per bushel, which includes interest on investment at 7 per cent, as follows:

	Per Bushel.
10 bushels per acre -----	\$0 53
15 bushels per acre -----	38
20 bushels per acre -----	30
25 bushels per acre -----	26
30 bushels per acre -----	22

Land suitable for wheat-raising is worth \$20 per acre; alfalfa land, \$40. The yield per acre in this county to make the growing of wheat profitable at one cent per pound should be 15 bushels. Should estimate two thirds of the wheat land now produces this amount.



## VENTURA COUNTY.

*C. E. Hoar, Simi.*

I submit the following figures upon cost of wheat per bushel in the sack:

10 bushels per acre, 70.6 cents per bushel; at 1 cent per pound, loss.....	\$1 06 per acre.
15 bushels per acre, 50.6 cents per bushel; at 1 cent per pound, gain.....	1 41 per acre.
20 bushels per acre, 40.6 cents per bushel; at 1 cent per pound, gain.....	3 88 per acre.
25 bushels per acre, 34.6 cents per bushel; at 1 cent per pound, gain.....	6 35 per acre.
30 bushels per acre, 30.6 cents per bushel; at 1 cent per pound, gain.....	8 82 per acre.
40 bushels per acre, 25.6 cents per bushel; at 1 cent per pound, gain.....	13 76 per acre.

Our land produces 20 bushels per acre, which would make the growing of wheat profitable at one cent per pound, but we are unable to get one cent. The present value of land is \$40 per acre.

Have had experience in feeding barley (rolled or crushed) mixed with one fourth wheat, to chickens and swine, and find that it makes a stronger feed than barley alone.

With hogs at 4 cents on foot, wheat fed would bring one cent per pound. Sold barley in San Francisco, September, 1890, at \$1 35 per cental; wheat, in April, 1891, at \$1 74½ per cental—quite a change as compared with present prices, which should improve when times get better.

In making above calculation, have taken actual prices paid for work hired in putting in crops:

Plowing and seeding.....	\$1 25
Seed.....	70
Harrowing.....	50
Hauling.....	75
Interest, 7 per cent.....	2 80
Total cost.....	\$6 00

Cost, irrespective of yield, \$6 per acre; sacks at 7 cents per 150 pounds, and threshing at 12 cents per 100 pounds, which will vary with different yields. In 1893, my wheat crop averaged 30 bushels per acre on 300 acres, but the price received in sack on the ranch was not over 45 cents per bushel—75 cents per 100 pounds.

Wrote to the "Rural Press" early in 1894, with suggestions that we should, in view of the low prices, endeavor to improve the yield by selecting the best seed of large-yielding varieties, thus distributing cost over a greater number of bushels, and recommended a variety called "White Tuscany," said to be nearly rust proof, and milling a large per cent of first-class flour. One field of 60 acres of this variety, in 1893, yielded me 26 centals per acre, or over 40 bushels; a yield of 40 bushels, according to the above calculation, costing only 25.6 cents per bushel in sack on ranch.

In 1894, a dry season, the wheat crop was a failure in this valley, but for the season of 1895, several hundred acres of "White Tuscany" have been sown, and shall be pleased to report results later on. The wear and tear of equipment would be included in above cost, as falling upon the owners who hire work done. Should the work be done by owner of crop with his own teams, labor, and feed, the cost would be reduced. Insurance and incidentals are not included in above cost, as besides the wheat there is a value in the straw and stubble, which should fully cover such expenses. It will be noticed that the cost of sacking and

threshing comes to 10.6 cents per bushel, while the proportion of the fixed cost per acre (\$6) for each bushel varies according to the yield. For 10 bushels it is 60 cents; 20 bushels, 30 cents; 30 bushels, 20 cents, and 40 bushels, 15 cents.

YUBA COUNTY.

*Hugh Morrison, Wheatland.*

Have had long experience in the use of wheat as feed for swine, and allowing that it takes eight pounds of wheat (at three quarters of a cent per pound equals 6 cents) to one of pork (which is now worth on foot  $3\frac{1}{2}$  cents), it cannot be fed profitably. It would be like the "devil shearing the hog—all squeal and no wool."

Around this section the crop must be either wheat, barley, or oats, with but very little exception.

There was a time when we had 60,000 acres of land upon which almost anything would give large returns, but this was all destroyed by hydraulic mining, permitted by the will of the majority. All the unfortunate owners of this land were guaranteed protection by the ever glorious Constitution of the United States, but its powers did not reach as far as Yuba County.

Wheat costs me per bushel, in sack, if the yield is 20 bushels per acre, 57 cents. With land yielding 20 bushels per acre, the growing of wheat at one cent per pound would be fairly profitable in this county, but do not think our wheat land will average nearly this much.

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## FEEDING WHEAT IN KANSAS.

REVIEW OF QUESTIONS BY STATE BOARD OF AGRICULTURE OF THAT STATE.

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The State Board of Agriculture of Kansas makes report upon the question of feeding wheat to farm animals, its cost of production in that State, and a summary of conclusions arrived at respecting this question. The Secretary of that body makes the following statement in reference thereto:

In the news and agricultural papers, for a year past or longer, there have appeared occasional references to the fact that here or there some one was making himself an object of more or less good-natured wonder by using surplus wheat in lieu of corn as a stock food. It gradually became evident that, owing to the shortage and comparatively high price of corn, the considerable accumulations of wheat, its almost unprecedentedly low price, and generally unquestioned worth as a nutritive ration, a much greater aggregate of it was being withheld from the milling market, and diverted to the new and widely differing purposes of meat production than there were any available statistics to verify. Appreciating the importance and interest attaching to this new phase of the agricultural problem, its present connection with and probable future bearing upon both grain and animal production, but without disposition to unduly magnify the subject, or in any way appear to "boom" it as a new departure, the Kansas Department of Agriculture during the past summer has undertaken to obtain such definite, helpful information as it might from the people in every county in the State, showing to what extent the previous year's crop was being used as animal food, the preferred methods of preparation and using, its approximate cost of production in Kansas with varying yields, the ordinary returns from its use as feed, its merits as a growth, meat, and milk maker, compared with corn—the chief staple and generally accepted standard in the Central West—and such further practical observations as their experience might suggest. As a preliminary to this there were procured the names and addresses of one thousand wheat-growers, stock-growers, feeders, dairy-men, and others best situated and equipped for discriminate observing along the lines of this investigation.

### WHAT THE REPLIES INDICATE.

The replies of about four hundred of those who received the question blanks were of such a character as to make them very useful contributions. From the answers and estimates of these observant and practical men, who have viewed the subject from the many divergent standpoints incident to a State with so large an area as Kansas, and a separation, in some instances, of possibly five hundred miles, numerous very interesting averages and deductions are reached. Some of these are as follows:

Of the 24,827,523 bushels of winter and spring wheat raised in Kansas in 1893, there have been used as feed for farm animals 4,059,323 bushels,



or 16.4 per cent. Cowley and Sumner counties lead, with 297,044 and 407,606 bushels, respectively.

When fed whole (perhaps more especially to hogs), 25 per cent of it passes the animals unmasticated, and hence, undigested and unassimilated—a shameful waste. The average of the estimates made by eighty-one correspondents in twenty counties is that above 30 per cent is voided without mastication; twelve correspondents, representing five counties, put it at 50 per cent or above, and a few others name a higher figure, while forty, reporting from twelve counties, average at 10 per cent.

Three fourths of those reporting, representing fifty counties, state that, pound for pound, wheat is superior to corn for fattening hogs (even with the one fourth unmasticated) by 7 to 35 per cent; the average of these indicating a superiority over corn of 16 per cent, while the average of the other one fourth of the reports, representing twenty-six counties, indicate that it was considered of less worth than corn by 12 per cent.

To the question, as to how much live pork may be expected as a fair return per bushel of wheat fed to hogs, the average of all the answers is 11 pounds, and the variations, from 7 pounds, in a single instance, to as much as 20 pounds in one other; but nearly all put their figures at or above 10 pounds.

The average of all the reports, as to the cost of wheat raised and in the bin, "including 7 per cent interest on the value of land upon which raised, also wear and tear of equipment," with different yields, shows thus:

	Per Bushel.
Yield of 10 bushels per acre.....	\$0 56½
Yield of 15 bushels per acre.....	48
Yield of 20 bushels per acre.....	35½
Yield of 25 bushels per acre.....	31
Yield of 30 bushels per acre.....	27
Yield of 35 bushels per acre.....	26

The highest and lowest average cost per bushel, given by counties, under the six different yields named, and the average value per acre, by counties, of the land upon which grown, are shown as follows:

*Highest Average.*

County.	Yield per Acre, in Bushels.	Highest Cost per Bushel.	Value of Land per Acre.
Wyandotte.....	10	\$0 88	\$50 00
Wilson.....	15	66	20 00
Wyandotte.....	20	52	50 00
Miami.....	25	50	40 00
Wyandotte.....	30	40	50 00
Wyandotte.....	35	38	50 00

*Lowest Average.*

	Yield per Acre, in Bushels.	Lowest Cost per Bushel.	Value of Land per Acre.
Stanton.....	10	\$0 27	\$2 00
Stanton.....	15	21	2 00
Stanton.....	20	17	2 00
Stanton.....	25	16	2 00
Stanton.....	30	15	2 00
Grant.....	35	13	5 00

An average of wheat land values, as stated from all the counties, is \$19 35 per acre, and these valuations range from \$50 in Wyandotte, \$45 in Atchison and Brown, \$40 in Allen, Jefferson, Johnson, and Miami,

and \$37 in Cowley, to \$6 in Cheyenne, Morton, Sheridan, and Sherman, \$5 in Finney, Grant, Meade, and Wallace, \$4 in Lane and Seward, \$3 in Haskell and Scott, and \$2 in Stanton.

In reply to the question, "What is ordinarily the value per acre of your wheat straw, to use or to sell?" the composite reply is 81 cents, the extreme range being from 25 cents in Thomas and Jewell to \$2 in Kiowa, \$1 75 in Morton, and \$1 50 in Decatur, Doniphan, Leavenworth, and Shawnee counties.

Responses from eighty-five counties, having all the wheat raised except 181,514 bushels, received within the last ten days of September, this year, to inquiries sent to five hundred correspondents, asking their estimates on the percentage of the wheat crop of 1894 which will be fed to farm animals, represent it as 30.4 per cent of the wheat in those counties, a total of 8,524,983 bushels, or 110 per cent (4,465,660 bushels) more than the entire previous year's crop so used.

#### A SUMMARY OF CONCLUSIONS.

In a general way these reports show:

In Kansas, under the conditions as to product and prices of wheat and corn existing in the years 1893, 1894, 1895, wheat has become a very unusual and very important factor in the grain-feeding of all classes of farm stock.

It is superior to corn, pound for pound, as a grain to produce healthful, well-balanced growth in young animals.

Mixed with corn, oats, or bran, it is much superior to either alone for work horses.

Fed to cows, it is an exceptional milk-producer, and for that purpose corn is scarcely to be compared with it.

For swine of all ages, it is a healthful and agreeable food, giving generous returns in both frame-work and flesh; but fed whole, especially without soaking, is used at a disadvantage. Ground and made into slops, it is invaluable for suckling sows, and for pigs before and after weaning.

For cattle, it has, at least as a part of their grain ration, a very high value, which is much enhanced in the line of needed variety by mixing with corn, and in a still greater degree by mixing judiciously with bran, oil-cake, or other albuminous foods tending to balance the too carbonaceous nature of the clear wheat.

With corn and wheat approximating the same price per bushel, it is not unprofitable nor wicked to feed the wheat; yet, if it can be ground, rolled, crushed, or in some way broken, at a total cost not exceeding 5 to 7 cents per bushel, to feed it whole and dry is unwise.

It can be ground at a cost of 5 cents per bushel, and on a majority of Kansas farms for very much less.

If grinding is impracticable, soaking from twenty-four to thirty-six hours (the length of time depending somewhat upon the weather and season) is for various reasons deemed desirable, but is injudicious to any extent, that its being moist facilitates swallowing without the mastication or the proper mixing with saliva. Any arrangement or system of feeding by which the grain is delivered in such a way that the animal could eat but slowly, would largely overcome this defect.

It is a superior food for all fowls, and, as a promoter of the maximum egg-production, is unsurpassed by any other grain.

## AN INQUIRY INTO THE CAUSES OF AGRICULTURAL DEPRESSION AND THE REMEDY THEREFOR.

### FIRST DAY'S HEARING.

COMMITTEE ON AGRICULTURE, HOUSE OF REPRESENTATIVES,  
WASHINGTON, D. C., Saturday, December 15, 1894. }

The Committee on Agriculture, having under consideration a certain resolution inquiring into the depressed condition of agriculture, met at 10:30 A. M., Hon. W. H. Hatch in the chair.

Personally appeared before the committee Mr. David Lubin, of Sacramento, Cal.; Mr. Alex. J. Wedderburn, Master of the Virginia State Grange; and Mr. Leonard Rhone, Master of the Pennsylvania State Grange, and Chairman of the Executive Committee of the National Grange; Mr. Ager, Overseer of the Maryland State Grange; and others.

The members of the committee were the Chairman, and Messrs. Alexander, Sibley, Marshall, Flynn, Shell, and Simpson.

THE CHAIRMAN: At its regular meeting on Wednesday last, the committee adjourned over until to-day to hear Mr. Lubin, of California, on a resolution introduced and referred to this committee on December 10, 1894, which I will read for the information of the committee.

The resolution was as follows:

IN THE HOUSE OF REPRESENTATIVES,  
December 10, 1894. }

Mr. Hatch (by request) submitted the following, which was referred to the Committee on Agriculture:

"WHEREAS, Current market prices of the principal agricultural staples have declined to about half their former rates, and are sold, in many instances, at and below the cost of production; and whereas, such a condition must tend to the elimination of the independent land-owning farmer and his replacement by a dependent peasant tenantry, which, unless prevented, will not only prove detrimental to agriculture and the kindred industries, but also to the perpetuity of American institutions; therefore,

"Resolved, That the Committee on Agriculture of the House of Representatives be, and are hereby, directed to inquire into the causes of the depression of American agricultural staples and the relative condition of agriculture to the manufacturing industries, and report the same to the House, with such suggestions as they may deem proper regarding the differences or inequalities, if any exist, so far as they are caused by legislation, or as legislation can remedy them."

Attest: JAMES KERR, Clerk. By T. O. TOWLES, Chief Clerk.

THE CHAIRMAN: The committee will please be in order; and the Chair requests not only the members of the committee, but the visitors present, to maintain order while the gentlemen address the committee. I have the pleasure of introducing Mr. David Lubin, who will speak to you.



## STATEMENT OF MR. DAVID LUBIN, OF SACRAMENTO, CAL.

Mr. Chairman, and Gentlemen of the Committee: Without further preliminary statement, I will endeavor to set forth what I believe to be the remedy for the depressed condition of agriculture and for the removal of the inequalities which have been caused by legislation. I advocate a Government export bounty. I have prepared a paper, which I will read, and will be glad to answer any questions as I proceed. What I state here I know to be the fact, and my information comes almost entirely from practical experience, and not so much from books.

Mr. Lubin read the following paper:

Mr. Chairman, and Gentlemen of the Committee: As a remedy for the depressed condition of agriculture, and for the removal of the inequality that in our country exists between the relative value of agricultural staples and manufactures caused by legislation, I advocate a Government export bounty on agricultural staples.

The chief cause of the low prices of agricultural staples, not alone in our country but throughout the world, may be readily traced to the efforts of England. In her desire to procure for herself the two necessary essentials for commercial supremacy, she has left nothing undone which was in her power to do. These two essentials are cheap food and cheap raw material.

Realizing that the protective policies of the other European countries and of the United States would debar them the utility of these advantages, that to her alone would accrue the advantages to be gained from these important factors of success, and realizing further that as long as she alone would reap the advantages of cheap food and of cheap raw material she would have a world's advantage over all competition, and that this was the true path toward the world's commercial supremacy, she put into operation a series of methods best calculated to bring about the result she desired.

The first important step was in the abolition of her corn laws; the second, in the securing of vast territories; and the third was the introduction into those territories of labor-saving agricultural machinery.

Under this policy England drove out Araby Pasha from Egypt and took possession of that country. To carry out this same policy, the Government of India was changed by declaring the Queen of England Empress of India.

Then she began building great canals, irrigating ditches, and docks. Harbors and rivers were made navigable, and great subsidized railway lines were constructed.

She sent large, well-disciplined armies to her tributary provinces, and sent her powerful warships to overawe and to intimidate the subdued and conquered nations, and when all was prepared, she then took copies of American agricultural machinery and placed them in the hands of the cheapest and most dependent field labor in the world, confidently awaited results, and the results are here. These labor-saving agricultural machines in the hands of the cheapest field labor in the world, and on lands as fertile and much cheaper than ours, and operated under the peasant-tenantry system, produced the effect aimed at by her. As a result, food and raw material can now be had cheaper in England than ever before.

Nor is this condition a temporary one; on the contrary, the best

informed unhesitatingly state that the era of low prices for agricultural staples is here to remain.

A few years ago an agricultural machine was a novelty in Europe. To-day there are great manufacturing plants of modern agricultural implements and machinery, not alone in England, but in Germany, France, Austria, and Belgium, and ready markets are found for them in Egypt, India, North Africa, Asia Minor, the Danubian provinces, European and Asiatic Russia, Eastern Asia, and South America.

The economic value of these labor-saving agricultural machines to the commercial supremacy of England is significant. Without these aids to cheap production, all her other agencies would not be sufficient to avail, for there is a vast difference between the efficacy of machine over primitive agricultural hand labor.

Of greater significance, however, has all this been to the economic condition of the United States.

But a few years ago, and we were the almost exclusive users of agricultural machinery, and because of this fact the producers of agricultural staples could afford to pay the entire enormous cost of protection to manufacturers, and still come out with a handsome profit ahead.

This is now no longer possible; for, with the world's prices of the principal agricultural staples at half or less than half their former rates, they are now produced in our country close at or below cost.

Under these circumstances, the time must come when the former independent land-owning farmer must be driven to bankruptcy and ruin, and his place will be taken by a dependent, degraded peasant-tenantry system, and when that time comes the farmers of our country will not stand alone as the sufferers.

The immediate results to follow will be in the great shrinkage of the purchasing power for the products of labor, and millions of workers in the manufacturing centers will be in enforced idleness.

The economic disturbance, unless arrested, must tend in the direction of a greatly increased standing army, and ultimately end in radical changes in our form of government, perhaps changing it into a despotism or monarchy.

These changes seem impossible now, but they seemed equally impossible at a time when Rome was the most powerful republic in the world. The root of the cause of her decline and fall finds a comparative parallel in our present economic condition. The conquest of Carthage, Egypt, Syria, and Asia Minor brought Rome many millions of captives. These she employed under the lash and without pay in the production of agricultural staples.

The free wage-paying farmers of Italy could not compete with this slave labor, and as a result were driven into debt which they could not meet.

Presently their farms were foreclosed, and the former independent land-owning Roman farmer was driven from his farm, and he became a houseless, homeless vagabond, yet a Roman citizen. He drifted to Rome, and when there he chose a new occupation: he became a politician, and elected that party which promised him the most "largess." In order to hurry a succession of "largess," he found it convenient to change the administration as often as possible, and to hasten natural events he found it expedient to kill off the rulers.

And so Rome fell. A miserable fall it was, but not at all undeserved.

Now, we do not conquer or enslave foreign nations. England has done this for us; but the result is precisely the same as if we had done this ourselves.

The products of the cheapest, most dependent field labor in the world, supplied with modern labor-saving agricultural machinery, come into direct competition with the products of our independent, high-wage-paying, land-owning farmers, and the result must be in their elimination, in their being driven to our cities.

Once in the cities and they will cry "protection," which is but another form of "largess."

Why, then, should the American producer continue the production of agricultural staples when he can no longer do so profitably? Because he cannot produce anything else that will be more profitable, and because to abandon his holding would be instant ruin.

But can we not enhance the price of agricultural staples in our country by reducing the area under cultivation?

No; not unless the entire crop is below the export point. As soon as there is a surplus, it must be exported, and the export buyer will pay us no more for it than the price for which it can be bought from the cheapest labor countries of the world, and the ruling prices of which are quoted in the chief market center where it is bought in the greatest quantity, and which center is at Liverpool.

As soon as the surplus is offered at the Liverpool price, the same Liverpool price rules for the greater portion which is sold for home consumption.

Therefore, as soon as there is a surplus, the home price for the entire crop is the Liverpool price, less the cost of transportation from the place of production to Liverpool, even though the product is consumed within a stone's throw from the place of production.

Can we not by protection stimulate home manufacture to a degree that will give us that greater home market which will consume our present surplus at home?

If this were possible, it would remove our difficulties, for, with no surplus to sell abroad, it would then be possible for us with the aid of the protective tariff to enhance the price of agricultural staples in our country to any artificial price that protection permits, and staple agriculture would be in the same comfortable position that protected manufactures are.

A portion of agricultural products now produced in our country are actually in that position now, and these products consist of kinds of which we do not produce a surplus for export, and which are to a great extent raised and sold near the great cities. Such agricultural products are, however, not under discussion, for they practically are as much protected as manufactures, and at the expense of the great staple agricultural industry.

Unfortunately the idea of home consumption of our present surplus agricultural staples, by fostering home manufactures through protection, must be abandoned as of no practical value whatever.

Apart from any other valid objections, it is only necessary to point to the fact that we buy about \$800,000,000 worth of commodities from the world every year. We must pay for them promptly when due. What shall we pay with; shall it be with gold or silver? Where would we get it from? Even if we had all the precious metal in the world, we



would have nothing left in about ten years. No; nations do not pay in bullion, excepting only those which are bankrupt, and are forced to.

Nations simply exchange commodities, and only give bullion whenever the balance of trade demands it. Now, as long as we buy of foreign nations such things as tea, coffee, spices, medicines, tropical fruits, raw material, or manufactures, we must pay for them, and besides these we must not overlook interest on foreign debts. If we cannot pay in bullion we must pay in commodities. Now, the question is, what kind of commodities? Clearly those which will be accepted by the foreign countries, just the same as we buy of them only those things that we most want.

Will the foreign nations accept our highly protected manufactures? Will France buy our millinery, England our hardware or textiles, or Austria our miscellaneous manufactures? No; they will do nothing of the kind.

Our protective system renders our manufactures so high as to render their export in payment for the imports impracticable. To illustrate: In 1893 the total value of imports entered for home consumption was \$844,454,583, and the total exports of domestic merchandise was \$831,030,785, divided as follows: Mining, \$20,020,026; forest, \$28,127,113; manufactures, \$158,023,118; fisheries, \$5,541,378; miscellaneous, \$3,936,164, leaving a remainder of agricultural staples of \$615,382,986, or 74.05 per cent of the whole.

It will thus be clear that as long as we import we must export, and as the nations do not want our protected manufactures, we must pay, as we have been paying them, in agricultural staples, and as soon as we do we must have a surplus, and when we sell this surplus we can get no more for it than can the producers in the cheapest labor countries in the world, or, in other words, the Liverpool price, and just as soon as we accept this price for the necessary surplus we must accept this same price for the greater portion used for home consumption, and from which is first deducted the cost for transportation from the place of production to Liverpool.

Our friend, the protectionist, is forced to admit this, but he seeks to escape from the difficulty by claiming that while the surplus is sold at these world's free-trade Liverpool prices the much greater quantity which remains for home consumption, and which is bought by the protected at the higher prices which protection affords, gives to the producer of agricultural staples that just protection average which he is entitled to. He further believes that this average can be increased in proportion as protection on manufactures is increased.

"For," says he, "protection will increase the factories, hence an increase in the number of employes at high wages. These factories in close proximity to the farms will so increase the price of that greater portion of agricultural products used for home consumption as to raise the average home price." Thus he hopes to render to the producer of agricultural staples that just measure of indirect enhancement of prices for his product which manufacture receives by the tariff. He claims further that these staples are protected—are as much protected by the tariff as manufactures are.

Unfortunately, however, the claims of the protectionist are without any foundation whatever. For, in the first place, as soon as there is a surplus and it is offered in the open market, it will bring no higher

price than the surplus of the cheapest labor country of the world; and as soon as this price is accepted for the surplus this same price, and no more, can be obtained for that greater portion sold for home consumption.

There is no distinction whatever between the export and home buyer. Both buy at the same price—at the Liverpool price. Hence, we have as a result that the farmer receives for his entire crop of agricultural staples the world's free-trade Liverpool price, less cost of transportation from the place of production to Liverpool, and this, whether the product actually goes to Liverpool or is consumed by the highly protected factory hand, even though the factory be within ten feet of the farm.

Of what value, therefore, is the protected factory in close proximity to the place of production of agricultural staples as long as there is a surplus of these products for export? None at all.

Further, of what value is a protective tariff on agricultural staples in order to enhance their prices in this country as long as there is a surplus for export? Of no value whatever; for a protective tariff can not enhance the home price of an export as it can of an import.

Let us now summarize the workings of this system, and we shall soon discover the inequality existing between manufactures and staple agriculture, and how far these inequalities are caused by legislation.

Some protectionists claim that the duty on import manufactures is paid by the foreign manufacturers.

This is so plainly and palpably false that there is no necessity to prove it so. What foreign manufacturer can afford to sell his goods at from 25 to 60 per cent cheaper to us than he is willing to sell them in his own country? The fact is that every penny of the duty is paid by the consumer.

Nor is this all, for in addition to the duty there are the profits of the importer, jobber, and retailer to be added.

Take a \$50 duty, for instance, and add these profits thereon, and we have the following:

Duty, \$50; 15 per cent for the importer's profit will increase the \$50 to \$57 50; now add 20 per cent for the jobber's profit to the \$57 50, and we have \$69; now add the retailer's profit to the \$69, and we have a total of \$86 25, as the real duty or tax, and it is this duty, this tax, which the consumer pays, and not the Government levy of \$50. Now, there is not a single penny here paid out which is for the goods proper. The \$50 duty, which becomes \$86 25, and which is paid for by the consumer, has in reality nothing to do with the world's free trade-price of the goods. If there were no duty there would be no \$86 25 to pay. The national legislature, through its law-making power, has, by its fiat, created an artificial enhancement of \$86 25.

The Government, therefore, has done an act which causes an artificial enhancement on imports. And for what purpose? Was it for necessary revenue for Government expenses? No; for it could for that purpose raise revenue on coffee, tea, and on other imports which it permits free entry. The high duty placed on certain articles of imports is for the purpose of protecting home manufactures against the importation of foreign manufactures at lower prices.

Now, as all consumers pay these enhanced prices, and as all the people are consumers, there can therefore be no cause for complaint, for by this means all the people are justly taxed to support the Govern-

ment. So it seems; but unfortunately this is not true. In reality all this protective tax, this enhancement and profits thereon on imports, together with the enhanced prices on home manufactures, is paid by the producers of agricultural staples, for they alone are compelled to sell their products at home and abroad at the world's free-trade Liverpool prices, less the cost of transportation from the place of production to Liverpool, coming into direct competition with the cheapest labor countries of the world, and are further compelled to pay for labor and necessities at the highest prices in the world. Being the only great body of producers in our country to do this, they are the only ones who actually pay for all the enhancement caused by the operation of the tariff, and in addition to this they pay all profits thereon and all the expense for carrying out the protective system.

All others are amply compensated for high prices by a still higher price for their labor, skill, talent, time, interest, manufactures, commodities, or rent. Thus indirectly, through the protective system, they help themselves through their votes in obtaining this higher compensation, compelling thereby the unprotected producer of agricultural staples to foot the costs of this one-sided and unjust protective system.

This system, while always unjust, was nevertheless persisted in. And because the producers of agricultural staples in our country were until recently the almost exclusive users of agricultural machinery, they could afford to pay the unjust costs of protection, and still come out ahead.

The time has, however, come when this one-sided and unjust system must cease, for if we persist in continuing this injustice now, when agricultural machines are in the hands of the cheapest field labor in the world, and when production is down to or less than cost, we not alone commit an injustice, but we become destroyers of the Republic. I do not believe that the farmer is any more "nature's nobleman" than is the shoemaker, but I do believe that the land-owning farmer is absolutely necessary in the preservation of our American institutions; for, in the nature of things, a free republican people must have a conservative body and a progressive body. While the land-owning farmers remain on their farms we have in them the conservative body, and in the citizens of the cities we have the progressive body. If our economic conditions are such as to drive the farmers to the cities, and should their places be taken by a degraded, cheap-living peasant-tenantry, then are the days of our Republic numbered, and we see in the present condition the beginning of the end.

There are two remedies for the removal of the injustice and inequality: One is in the absolute abolition of the protective system and its replacement by free trade; the other is in providing a method of protection for agricultural staples so that its prices in our country are enhanced as imports and home manufactures are enhanced.

The first mode of removing the inequality is, to my mind, not practicable in our time, because the people do not want free trade, would not vote for it, and even if they did they would be likely to return to protection with a change in the administration.

The time may probably come when free trade may not alone prevail in the United States but throughout the world. The time, however, is so distant as to render this mode of equalizing the present inequality utterly impracticable.



Those who persistently reject any other mode of equalization of present conditions, except it be by free trade, are likely to do the cause of the farmer more mischief by their opposition than any practical good they may be able to accomplish.

Free trade would certainly place the producer of agricultural staples on a level with those now protected, but what would become of the American standard of wages? The free-trader believes that it would remain where it is, or if it decline, that the compensating fall in prices would equal any loss. The protectionists, on the other hand, claim that free trade would drive our wage rate down to the European level, and with no compensating decline in rents or in food staples, for these are already lower in the United States than in Europe. They further claim that the European wage rate is half and less than half of what it is here; that with free trade the United States would enter as a world's competitor in manufactures, and that the world's competition would be keener than ever, and that the lowering process would continue; that all this would be a deteriorating and revolutionary step too radical in its far-reaching results for the peace and perpetuity of American institutions.

They also point to a new and serious danger in the recent introduction of manufacturing machinery into China and Japan, and that under free trade our labor would not only be obliged to compete with the European wage rate, but presently with the Asiatic rate as well. Nor are these fears without foundation. We see what mischief has been caused to American interests by the introduction of agricultural machines into the cheap-labor countries. How much greater may not the economic disturbance be when manufacturing machines will be placed in the hands of the millions in Japan and China?

Residents of the Pacific Coast who are familiar with the facts realize that the "greenhorn" Chinaman who arrives in San Francisco, wearing his umbrella hat, and whose gait, as he shuffles along to "Chinatown" with his cross-stick and bundles, makes him seem the clumsiest of the human race, becomes, after a short apprenticeship, a skilled workman, and is able to run a McKay machine as skillfully as a "white" man. In San Francisco he can be had for \$1 a day, but in China he can be had for one fifth or less of that amount.

What would prevent their machine-made goods under free trade from flooding our markets? Nothing. Have not the cotton spindles at Osaka, Japan, multiplied greatly? Who can compete with the Japanese women, who receive 8 cents per day?

The free-traders say that they are willing to take their chances and are not afraid of the cheap labor. Perhaps not, but we must not overlook the fact that the free-traders have really little to fear on that score, for as a rule they are more often college professors than laborers. England is pointed to as an example of free trade, but England is not near the free-trade country that many suppose her to be. Her subsidized ships, her subsidized railways, her armies, and her powerful navy, all these are for aiding her manufactures.

Let us now turn our attention to the proposition of the Government bounty on exports of agricultural staples as a means of equalizing the inequality that now exists in our country between the relative values of agricultural staples and manufactures.

In the first place, I desire to draw attention to the fact that a bounty on exports differs radically from a bounty on production. The sugar bounty, for instance, was a bounty on production, and which was paid on every pound raised. A bounty on exports calls for payment on the exports only, which, when done, enhances, not alone the price of the quantity exported, but likewise enhances the price to the very same extent of the greater quantity for home use without any further payment by the Government. This is so because there is no distinction between the price paid by the exporter and the buyer for home use; therefore, when the export price is raised the home price is also raised to the same degree.

I wish, secondly, to state that I am speaking of no novelty here; that an export bounty on wheat was in operation in England before the abolition of protection in that country, and that the price of wheat rose with the full measure of the export bounty.

The Government bounty on exports, together with the protective tariff, will accomplish for agricultural staples what the protective tariff now does for manufactures. Every dollar received as protective duty represents several other dollars by reason of home manufactures, the enhancement of which was made possible by the dollar collected as duty. So with the export bounty. Every dollar paid out on export agricultural staples will likewise represent several other dollars in the equal enhancement of the price of the greater quantity for home consumption.

To illustrate the export bounty plan: If we take the wheat crop of 1892 we find that the total production was 611,780,000 bushels, of which there were exported 225,665,812 bushels, leaving for home consumption 386,114,188 bushels.

Now, a Government bounty of 1 cent a bushel would have cost the Government \$2,256,658 12, and the enhancement to the producers would have been \$6,117,800.

A 5-cent bounty on the export would have cost the Government \$11,283,290 60, and the producers would have realized in enhanced prices \$30,589,000.

By the payment of a 10-cent bounty per bushel the cost to the Government would have been \$22,566,581 20, and the producers would have realized in enhanced prices \$61,178,000. It is not deemed necessary to give other examples of corn, cotton, or other staples, as the example given is plain enough.

I will now endeavor to briefly answer several objections which have been offered against this proposition. The first is, that the speculators would reap the benefits of the bounty. Before they could do this, a combination would have to be formed, which would have to include all the wheat buyers in this country, for the absolute control of the world's shipping, and for the entire crop besides. If this can be done in our country now, it could have been done in England when this system was in operation there. Wheat there rose to the full measure of the bounty paid, and there were as sharp wheat speculators in England then as there are now in the United States. If the shipping of the world and the entire crop of agricultural products could be cornered by a syndicate under the bounty system, it can be done as profitably without it. The producers have more to fear from option transactions, from those who sell wheat or cotton, and who have no wheat or cotton to deliver,

and who do not intend to deliver any, than from those who buy and sell actual agricultural staples.

For all legitimate purposes, it is only necessary to know the Liverpool quotations, the rate of transportation, and the amount of the bounty. Any farmer knowing these facts, will know as much as the average buyer. Open competition must give the producer every fraction of the bounty.

Another objection raised is, that the bounty will stimulate production in this country to such a great extent as to lower the demand and the price. A 1-cent, 5-cent, or even a 10-cent bounty per bushel on wheat at present prices would certainly do nothing of the kind, and the law could provide that in the event that the price arose to a certain figure the bounty would not be paid, or a sliding scale could be adopted for that purpose.

Another objection offered is, that an American export bounty on agricultural staples would lower the world's price. It would do nothing of the kind, for the United States is but one factor in the world's price, and the world's price is regulated by the production of the entire world. The German producer in offering his wheat to Liverpool would receive a higher price than the California producer, although the cost to the Liverpool buyer of both purchases when laid down in Liverpool would be the same. The buyer would pay the German producer more, because the expense for transportation from Germany to Liverpool is less than from California to Liverpool. Germany has therefore a world's advantage over California, which no power can take from her. With a bounty high enough, the American producer will have an advantage over the German producer.

We had a world's advantage when we were the almost exclusive user of agricultural machinery, and we lost this advantage when these machines were placed in the hands of the cheapest labor countries in the world.

A bounty on exports will not give us the power to raise, nor will it lower the world's price; it will simply enhance the price in our own country, and which enhancement is to compensate the producer of agricultural staples for the cost of protection on manufactures. He should ask for no more, and ought not to receive less, and when he does receive what is here advocated he will only receive what is justly due him. For this proposition does not advocate special legislation, but, on the contrary, seeks to do away with the special legislation now existing in the interest of all, except and at the expense of the producer of agricultural staples.

Another objection offered is that an American bounty on exports of agricultural staples will stimulate other nations to do likewise. In the first place, there are not many countries producing a surplus for export, and these are not of a kind that can afford to do so. But suppose they were, what then? It could do no harm at all, for a bounty on exports can only have the effect of raising the home price.

Another objection raised is, that the cheap labor countries of the world, which are now aided by labor-saving agricultural machinery, will so develop production that in a short time prices may be as much lower as the bounty given would amount to, and thus the benefit of the bounty to the producer would be swallowed up, and the expense to the Government would remain.



This objection, when carefully analyzed, is no more valid than the others. It is certainly possible that production in the cheap-labor countries would go on increasing, and thus continue to lower the world's price. But our producers would still have the advantage of the bounty on exports, and this would be the advantage that the American producer of staples would have over the cheap-labor countries. And this would be no more advantage than manufacture has to-day over the cheaper labor of Europe. During campaign time protectionist speakers are very vehement in their statements about protecting American industries against the competition of the "pauper" labor of Europe. Well, is the production of neckties an American industry? Certainly, and the production of hats also. To be sure. And the production of wheat and cotton? [After some hesitation.] Well, yes. Why don't you protect them then? Oh, we do. How? By a tariff. But a tariff cannot enhance the price of exports, and so our friend, the speaker, is silenced, unless he gives evasive answers or twists the truth, which he sometimes does. Is the European workman of Germany or Austria a greater pauper than the peon, the coolie, the ryot, the fellah, or moujik? Please answer. If protection is needed against "pauper" labor, who should receive most protection?

Another objection offered is that of taking a large sum from the United States Treasury for the payment of these export bounties, especially so when that Treasury can hardly pay current expenses now. The answer to this is clear. In 1893 the customs receipts were \$203,355,016 73. This was mainly protection money, and as agricultural staples pay for the protection of manufactures, it has therefore contributed almost all of this vast sum. Is not this industry entitled to a share of its own contributions? Yes, and much more besides; and not as a favor, but as a right.

As for a just revenue for Government expenses, have we not talent enough in the country to show us a way how it can be raised? Surely.

In concluding my remarks, permit me to say that, as far as justice and equity are concerned, there is no reason whatever why staple agriculture should be burdened with the enormous costs for the protection to manufactures. If we have protection at all, it should be for all American industries against the competition of the cheaper labor countries. It should not be for one industry in our country at the expense of another industry. How can a protectionist consistently object to an enhancement of agricultural staples by a bounty on exports, and then demand a bounty in the form of higher prices on the product of every other kind of industry? Even now, certain manufactures, the raw material of which was imported, receives as a bounty 99 per cent of the duty when the same are exported.

It has been said that the workingman will object to any measure that will raise the price of food.

At first, yes; but a sober second thought will convince him that it would be neither just nor politic on his part to oppose this proposition. First, because when wheat was worth \$1 a bushel he exchanged his day's labor of say \$2 for two bushels of wheat. Protection and the labor unions are still vehement in keeping to the two-dollar schedule, but shall he now demand for this same \$2 four bushels of wheat? In England such a policy would be in order, but in the United States it is industrial suicide. England sells her manufactures to the world; in the United States our

market for manufactures is limited to our country almost exclusively, and it behooves the thoughtful workingman to have some compassion on his chief customer, the producer of agricultural staples, at least as long as we have protection. If this customer is injured by unjust legislation to an extent that drains his pockets, will not the purchasing power of the nation be materially reduced? And when the purchasing power is reduced will not the demand for skilled labor decline? Will not, then, wages also decline? Of course, this declining process must continue to proceed as long as the world's price declines, and as long as the commerce of the United States comes in contact with the world. In time things would even up in some way without the interference of this or any other proposition, but if the evening-up process goes on on its own hook, and the interference of a one-sided protection continues, we will find that when we have struck level the independent, land-owning farmer will be gone, and the Republic, too.

Some persist in advising a curtailment of the area under cultivation, in order to do away with the surplus, so that we could by a tariff have a high artificial price. These advisers forget that this would be like jumping from the frying-pan into the fire. Nations do not pay in bullion, but in commodities. Heretofore we have paid for our imports in staple agricultural products. With what shall we pay for them when we have no surplus? Will it be in protected manufactures? There would be no objection to this if the foreign nations would accept them, but the trouble is that they refuse to do so.

Much is said of a home market, of factories near the farm. When this is carefully examined into it will be found that it is of no value to staple agricultural products. The factory employé can always buy at the Liverpool price, less cost of transportation from the place of production to Liverpool, even though the factory adjoins the ranch.

Tariff reduction or reform is spoken of as the happy medium. Experience has rather proven that for practical purposes it is more of an unhappy and costly political seesaw than a happy medium. It has not been able to preserve that economic equilibrium essential for the maintenance of values to a degree of stability, and for the reason, perhaps, that the people in power do not permit such a policy to prevail for any length of time, and the sudden changes from one extreme to another cause a much greater sacrifice on the part of the people than would the adoption of this export-bounty system. Besides, tariff reduction is no more equity than high protection, as long as it is one sided.

The true remedy for injustice and inequity is in justice and equity. As long, therefore, as we have protection and enhancement of prices for manufactures, we should place staple agriculture on the same level, and this can be done by a Government bounty on the exports of agricultural staples.

During the reading of the paper, the following proceedings occurred:

MR. LUBIN: I have here a little red-covered book which is a compilation of the principal politico-economic editorials from the leading journals of the United States, as well as from those in Canada and Europe. I have revised them up to date, and the dates and the names of the journals are given. I have also statistical and other matters in addition, which I will file with the committee.

In reference to agricultural machinery, I will say that in 1884 I went

to Europe and went through quite a number of the plants engaged in making agricultural machinery; again, in 1888, I visited Europe and had with me a small model of an agricultural machine which I had invented, and I took special pains to go through every implement factory in England, Germany, Austria, and France. I did not go to Belgium. I had a conversation with Mr. Sidel, director of the Eckert Actien Gessellschaft, being one of the large agricultural machine and implement manufacturers of Berlin, as to the industry of agricultural machinery in Germany. A portion of the conversation was reported in the papers. I asked him what they did with the machines, and whether they sold them to western and central Europe. He said they did not, as a rule, because the farms in these sections of Europe were too small; but that they sold them mostly to European and Asiatic Russia, North Africa, Asia Minor, Egypt, and the Danubian provinces, and much of them went to South America.

In reference to the labor that I observed in Spain I will say that in Cordova it is much more primitive than in our own country, and more is done by hand in Spain. The main part of the spading is done by women. To a great extent, while the cultivation in Spain is in a primitive state, they persistently refuse to use modern agricultural implements. An agent for a Swedish plow company said they refused to buy his plows because they had two handles. They wanted a plow with only one handle. They are a peculiar people. But if you go right across the water, on the African side, between Oran and Algeria, probably some two hundred and fifty miles in length, and close your eyes mentally, if you were not aware of being in that country you would suppose that you were in California, as the matter of details in agricultural labor is very much like it is in California. It is quite different from what it is in Spain, just across the Mediterranean.

In reference to the conditions of manufactures and agriculture, I would say that we must have these two at an equilibrium. When they were at an equilibrium, naturally, agriculture was prosperous in the United States, because agriculture and manufacture must balance each other. It is not so in England, for the aim of England is commercial supremacy, and agriculture is not a factor; but in our country it is, because we find our market for manufactures in our own country almost exclusively, whereas England sells to the whole world. Consequently, these two in our country must balance, and they did balance, notwithstanding agriculture paid almost the entire cost of protection, seemingly; but in reality it was not so, because protection to staple agriculture consisted in the use of agricultural machines. Formerly we were almost the exclusive users of these machines, and we had a world advantage; but now we have lost that advantage, because the cheap labor of foreign countries is now using these machines. Statistics show that last year we shipped over \$1,000,000 worth of agricultural machinery to the Argentine Republic.

Our manufactures are chiefly sold to the agriculturist in the United States. He is the chief customer, and when his purchasing power is reduced one half, necessarily the purchasing power of the United States is reduced nearly one half.

More than a million workers in the manufacturing centers have recently been in idleness, and that brings up the question of a standing army. We had an illustration of that. Before that condition arose,



General Schofield said he was in favor of a small, well-disciplined army; but when agricultural products came down in price one half of what they formerly were, and when labor, especially skilled labor, began to squirm a little, and riots occurred, General Schofield immediately said that he was in favor of a large, well-disciplined army.

I find it quite difficult to have workmen, and even farmers, understand this question of the home market. If you plant a factory right by the side of a productive field it will not raise the price of the staple product of the agriculturist, because the price is regulated in Liverpool. What price do the protected factory hands pay for the wheat which is raised adjoining the factory? They pay absolutely the cost of the wheat in Liverpool, less the cost of transportation from place of production to Liverpool, although in this case it is not carried there at all. It is raised and consumed near the factory, and yet the price is regulated in Liverpool. The buyer for export or for home use buys at the same price on the exchange. You simply hold up your hand and bid so much. If you buy, you buy at the same price, whether for Liverpool or for home use.

MR. WEDDERBURN: On exported products?

MR. LUBIN: On all staple agricultural products, a portion of which is exported.

Only a portion of our agricultural products produced in this country are consumed here. We imported about \$844,000,000 worth last year, and exported about \$158,000,000 manufactures. How much of that was staple agriculture in a minor state of manufacture I am not able to tell at this moment, but perhaps considerable. But the bulk of our payments for our imports, over \$600,000,000, was in agricultural staples.

These staples are sold at home and abroad at the world's free-trade prices, less cost of transportation from place of production to Liverpool, whether the product was for home use or export. But in manufactures the price is fixed differently. Take a case of goods on which the duty is \$50. Who pays this duty? Some say the foreign exporter, but this is not true. The consumer pays every cent of it, but not all consumers. It is paid by the great class whose products are sold at the world's free-trade prices, and who pay the artificial prices which protection creates for all necessities. The \$50 duty, which is the tax that this consumer pays, is not the end of the protective system, but the beginning. On this \$50 must be added 15 per cent for the importer's profit, making it \$57 50, and to this we must add the 20 per cent jobber's profit, making it \$69, and we must add again the profit of the retailer, making a total of \$86 25. This is the real duty, and not the \$50.

I am not talking here from what I find in books, but I am talking as a practical importer of goods, and if you would bring my bill clerk he would understand every word I am saying, because he figures up the bills every day. My ideas are not taken from books alone, nor are they taken from the newspapers, but from every-day practical experience. The reason why I place such an emphasis on this is because, having appeared before the Republican State Central Committee of California, this very question came up, and it seemed that it was not generally known. The endeavor was made to show that the party on the other side, the European exporter, paid the duty.

MR. FLYNN: You figure profit for the retailer and jobber?

MR. LUBIN: Yes, sir.

MR. FLYNN: If there was no tariff, the consumer would not have to pay \$86.

MR. LUBIN: Yes, sir.

MR. FLYNN: Would not the retailer get a profit if there was no tariff?

MR. LUBIN: He would get a profit on the case of goods. But this is the duty of which I speak, and the case of goods is outside. The matter is perfectly clear, and any importer understands it. Here is a case of goods, here is the bill, and here is the custom-house bill for the duty. You are dealing with the custom-house now. There is \$100 worth of goods, and here is the \$50 duty, and you add 15, 20, and 25 per cent to the duty as well as to the goods, and that nearly doubles the original cost of the duty on the goods which go through the custom-house.

MR. FLYNN: Do I understand you to say that if a man has to import \$100 worth of goods the duty is 15 per cent; the jobber's profit is, say, 15 per cent?

MR. LUBIN: The importer's profit is 15 per cent.

MR. FLYNN: Very well; add that to the duty; and then you add the jobber's profit of 20 per cent?

MR. LUBIN: Yes, sir.

MR. FLYNN: And then the retailer's profit. Now, would not the retailer and the jobber receive just as much profit as if they were manufactured here?

MR. LUBIN: Under protection, certainly.

MR. FLYNN: This percentage is added on.

MR. LUBIN: He would not receive it under free trade, but he would under protection. Here is \$185 worth of goods. When you sell an article for \$200 you make more than when you sell at \$80. You may sell an article oftener at \$80, and in that way make as much profit as when you sell it less often with a larger profit.

MR. FLYNN: He would make a certain percentage which would be added to the duty, and also a certain percentage which would be added to the goods.

MR. SIBLEY: I comprehend the point which the gentleman makes. He adds the retailer's profit and the wholesaler's profit to the duty, and then to the cost of the goods, and on that he must pay these several percentages, which double the price of the goods when sold?

MR. LUBIN: Yes, sir.

MR. SIMPSON: In other words, the importer wants to make interest on the money invested in duties and the expenses paid to the importer. That is money invested the same as the money invested in the goods. He has to make a percentage on the money invested in both.

MR. LUBIN: That is right.

MR. FLYNN: You are figuring a pretty high rate of interest?

MR. LUBIN: No; it is absolutely correct. The merchant's profits given are not too high, and must be added to the duty. There may be some merchants who do not do that, but I am doing it, and the percentages given are not too large.

MR. FLYNN: What line of business are you engaged in?

MR. LUBIN: I do mercantile business of about \$1,000,000 a year, and, in addition to that, I run a farm of 1,292 acres, raising wheat.

MR. FLYNN: I see your point, but you are figuring interest a little too high.

MR. LUBIN: No; I think not. The profits on protection almost double the original duty. If there is any decline by reason of the purchasing

power it is first felt by skilled labor—the \$7 50 shoe workman, and the \$5 hat man, and the \$2 glove man. All these high-priced workmen suffer first, and the unskilled or unorganized labor does not suffer quite as much as the higher priced ones. It begins on the upper stratum.

After finishing reading his paper, Mr. Lubin said: Reducing this paper to a few syllogistic and self-evident propositions, I have prepared here, and I will, if you desire, read them.

THE CHAIRMAN: I would suggest that, as this is a résumé, it might be inserted in the record, and it might be better not to take up the time reading it, as some members may desire to ask you some questions.

MR. LUBIN: I would prefer that, because I have these printed.

THE CHAIRMAN: You can leave that, and have it published as a part of your remarks.

The paper is as follows:

[Addenda to Report of David Lubin, of Sacramento, Cal.]

PROTECTION TO STAPLE AGRICULTURE BY AN EXPORT BOUNTY—STATEMENT OF THE PROPOSITION, AND RECAPITULATION.

(1) Our imports and interest on foreign loans must be paid in bullion or commodities; and as no nation can make such payments in bullion, therefore, the payments in our country must be made in commodities.

(2) A protective tariff on manufactures enhances their prices in the United States, and, therefore, renders their export impracticable, leaving only agricultural staples to constitute the great bulk of our exports.

(3) The highest price obtainable for our export agricultural products is no higher than the lowest price at which they can be bought in the world. These products are, therefore, sold for export at the world's free-trade prices.

(4) As the export and home prices for staple agricultural products are the same, it follows that these products are sold at home and abroad at the world's free-trade, or Liverpool, prices.

(5) Nor is this all. The cost of transportation from the place of production to Liverpool is first deducted from the Liverpool price, and this, whether the products be exported or sold for consumption at home, even within sight of the place of production. We have, as a conclusion, that, by reason of the protective tariff, manufactures are sold in our country at enhanced or artificial prices, while agricultural staples are sold for export and home use at the world's free-trade Liverpool prices, less cost of transportation from place of production to Liverpool.

(6) As the importance of the staple agricultural industry exceeds that of manufactures, and as it is the only great industry in our country that must sell its products at the world's free-trade prices, and must, through the operation of the tariff, pay protection prices for necessities, and as it is the only great industry to do this, it therefore follows that staple agriculture pays the cost of protection to manufactures.

(7) Protection to manufactures made a high-wage rate possible, this wage rate brought skill, and skill developed inventive genius, and inventive genius produced labor-saving agricultural machines. These machines in the hands of the American producer of agricultural staples amply repaid him for any cost for the protection of manufactures. With the powerful aid of labor-saving machinery he could, until recently, produce his crop so profitably as to enable him to compete successfully with the cheapest labor in the world. In other words, the agricultural labor-saving device gave the American producer as much protection as manufacture enjoyed from the protective tariff.

(8) It was destined, however, that the time should come when the American producer would lose his advantage. That time has come. It has been found profitable to place these labor-saving machines in the hands of the cheapest field labor in the world, and as a result the advantage enjoyed by the American producer is gone. The loss of the advantage has had a tendency to materially lessen the volume of the net return to the producers of staple agriculture, thereby removing the prop which has been the support of the protective system. Protection to manufacture must, therefore, be abandoned, or the source of the support of protection must itself be protected.

(9) The ruling prices for agricultural staples, a portion of which we export, having declined to about one half the former rates, and as these prices promise to remain low permanently, therefore we will be no longer able to continue the profitable production of agricultural staples, unless the prices of necessities be lowered to the world's lowest free-trade rates, or the prices of agricultural staples be enhanced in our country the same as manufactures have been enhanced; but not by a tariff alone, for a tariff cannot enhance the home price of an export which is sold at the world's lowest price. It can, however, be done by a Government bounty on agricultural products exported from the United States to foreign seaports. This, when done, would enhance the price, not alone of the quantity exported, but in an equal degree of the much greater quantity sold for home consumption.



(10) Duties on imports levied for protection protect home manufacture and production by enhancement of prices, but they cannot protect fully one half of our industries, namely, the staples of agriculture, because they are exports and not imports.

(11) The producers of the unprotected half, being consumers of protected home manufactures, and of duty-paid imports, pay all costs of the protective system.

(12) The true purpose of protection should be, not to levy on a portion of the American people only for the support of another portion, but to protect all American industries against the competition of foreign countries.

(13) An industry producing a surplus for export can be protected by a Government bounty on exports of such surplus. This would enhance the price in our country of the quantity exported, and also the greater quantity for home use.

(14) To protect an industry producing a surplus for export, there must be a fund to pay the cost of a bounty on the export, and in consideration of that which has been stated above, equity demands that the funds, or a portion thereof, collected as duties for the protection of the manufacturing half of our industries should be applied in the payment of bounties on the exports for the protection of the other half, namely, staple agriculture.

(15) A just Government has no right in equity to create revenues for the benefit of some to the injury of others. But the Government does create, by the protective tariff, revenues which benefit some and injure others, and uses such revenues to meet its expenses. In this the Government is unjust.

(16) To correct this injustice, Government should either cease to collect protective duties or it should use the revenues, or a portion thereof, derived from protecting one half of our country's industries to place the unprotected half upon an equality with the former, and thus effect a just balance between the two, thereby removing the antagonism between them now disturbing our political and economic system.

(17) The protective duty levied on imports and expended on staple agricultural exports will therefore protect both manufacture and staple agriculture.

(18) Now, since the Government must have revenue for support, all the people should be required to contribute by modes of just taxation to such support; but any revenues, or a portion thereof, derived from the protection of manufactures should be considered the same as a special fund, and be used for the protection of unprotected staples of agriculture by aiding their export.

#### RECAPITULATION.

First—American principles demand equality before the law, in life, liberty, and taxation.

Second—The prices of American manufactures are increased by the protective tariff in our country.

Third—The foundation industry, namely, staple agriculture, cannot be benefited by a protective tariff alone, owing to the fact that these products are exports and therefore are sold in free competition in the open markets at the world's ruling prices, less the cost of transportation from place of production to Liverpool, whether consumed at home or exported; thus compelling American producers of these staples to buy in the dearest and sell in the cheapest markets of the world, thereby discriminating against the producers of staple agriculture.

Fourth—The introduction of labor-saving agricultural machinery in the hands of the cheapest labor of the world and on lands much cheaper and as fertile as ours has so lowered the cost of production as to reduce the world's price of these staples to about half their former rates, and which promise to remain so permanently; and,

Fifth—Such a condition must tend to the elimination of the independent land-owning farmer and his replacement by a dependent peasant-tenantry system, which, unless prevented, will not only prove detrimental to agriculture and the kindred industries, but also to the perpetuity of American institutions.

Sixth—That just so long as manufactures are enhanced in value by protection, equity, justice, and expediency demand an equal measure of protection for staple agriculture by the enhancement of their prices in our country.

Seventh—That inasmuch as these products are exports and not imports, their prices cannot be enhanced by a protective tariff alone, no matter how high; but an increase of their prices in our country can only be secured by the use of a limited portion of the tariff collected for protection to pay a premium on exported agricultural staples.

CORRESPONDENCE WITH THE TREASURER OF THE AMERICAN PROTECTIVE TARIFF LEAGUE, HAVING A DIRECT BEARING ON THIS QUESTION.

[The American Protective Tariff League, national headquarters, No. 135 West Twenty-third Street.]

NEW YORK, September 25, 1894.

DEAR SIR: You are familiar with the work the Tariff League is doing. It is telling, but we need to emphasize and extend it. The results of the recent elections make it important that we should strike now while the public mind is receptive. You have not signed the pledge as a member, and we do not at this moment urge that upon you,

unless you desire to do so. We do ask, at this juncture, that you make such contribution, large or small, as you think will satisfy your own judgment of your duty and abilities.

Now is the time when our work will count the most. Will you help us?

Anticipating, with thanks, a prompt and favorable reply, we are,

Yours, very truly,

CHESTER GRISWOLD,

Treasurer.

To Mr. D. LUBIN, *Sacramento, Cal.*

The following is a reply to the above:

SACRAMENTO, CAL., October 12, 1894.

DEAR SIR: Your esteemed favor of September 25th received, and would have had my earlier attention were it not that my time was occupied in preparing a statement of the proposition I advocate for presentation before the convention of the California State Grange, recently held in Stockton, this State. You say, "You are familiar with the work the Tariff League is doing. It is telling, but we need to emphasize and extend it," and you ask me to contribute money toward furthering the interests of your work.

In reply, I wish to state that I have no objection to render your league financial assistance, provided the kind of protection you advocate is in the best interests of our country.

I am, however, of the opinion that the present protective system is in the interest of a portion of the people only, and at the expense of the producers of agricultural staples, and that these, too, should be protected, and in such a manner as to enhance the price of their products in our country so as to fully compensate them for the loss they now sustain by reason of the enhanced cost to them in the prices of protected necessities and labor.

There is here clearly a difference of opinion between us, and before I would deem myself justified in contributing to the funds of your league I wish to be satisfied that its work is really in the interest of our country.

As we seem to differ radically in our opinions, and as I am now under the impression that if your theory of protection is just, mine is unjust, and if my theory of protection is just, yours must be unjust; and as I would like to have this question decided by competent authority, and abide by their decision, I therefore tender you the following: Should the decision be in your favor I will contribute to the funds of your league the sum of \$1,000, which sum has been deposited by me in the national bank of D. O. Mills & Co., this city, and is subject to the order of a committee to be nominated for the purpose of deciding the question.

I nominate as such committee the following gentlemen:

Prof. Richard T. Ely, of the Wisconsin University.

Hon. John Wanamaker, of Philadelphia.

Hon. A. P. Roache, Master of the California State Grange.

Mr. Samuel Gompers, President American Federation of Labor, New York.

Senator Chandler, of New Hampshire.

Any hotel and traveling expenses necessary for the meetings of the committee will be paid by me in addition to the above amount.

Should the committee named by me not be satisfactory to you or your league, you are in that event at liberty to nominate two of the committee and I will nominate two, and the four nominated to nominate a fifth.

The amount set aside to be payable on the day of decision in your favor, and without appeal.

Yours, very truly,

D. LUBIN.

To CHESTER GRISWOLD, Esq.,

*Treasurer The American Protective Tariff League,  
135 West Twenty-third Street, New York.*

NATIONAL BANK OF D. O. MILLS & Co., }  
SACRAMENTO, CAL., October 12, 1894. }

DEAR SIR: We have received from you a copy of your letter of this date addressed to Chester Griswold, Esq., Treasurer of the American Protective Tariff League, at No. 135 West Twenty-third Street, New York, and we have also received from you the sum of \$1,000, to be paid under the terms of said letter, provided that Mr. Griswold shall accept or reject your offer by December 1, 1894, and that a decision shall be rendered by March 1, 1895.

Yours, very truly,

FRANK MILLER,

President.

To D. LUBIN, Esq., *Sacramento, Cal.*

Shortly after forwarding the letter of October 12th, a reply was received from Mr. Wilbur F. Wakeman, Secretary of the League, stating that the offer would be submitted to the Executive Committee. The offer was not accepted.

MR. ALEXANDER: I would like to ask Mr. Lubin whether he means to set aside any part of the tax, or whether he desires to make a law to pay a certain bounty. As I understand him, he claims that the amount which is levied for protection ought to go in part to the payment of a bounty on agricultural products.

MR. LUBIN: The amount collected on protection, or a portion of it.

MR. ALEXANDER: Do you hold that all tariff is a protection; that is, all duties on imports?

MR. LUBIN: No; there may be some of the customs receipts which are not.

MR. ALEXANDER: I mean all articles manufactured in this country.

MR. LUBIN: Here is a dollar coming in on duties which is simply for revenue; such would be the case on tea and coffee. And here is another dollar which is protective; this dollar is for protection, and should be applied on the export of agricultural staples.

MR. ALEXANDER: There is a discrimination?

MR. LUBIN: Yes, sir.

MR. ALEXANDER: How would you divide that money? What portion would you give to the Government, and what portion to the use of a bounty?

MR. LUBIN: The revenue money needs no division. But the money received from protection, all or a portion of it should go for a bounty.

MR. ALEXANDER: Where would you get enough to support the Government, if you do that?

MR. SIBLEY: From an income tax.

MR. LUBIN: The support of the Government! The claim is made in this article that the Government has no right in equity to support itself unjustly.

MR. ALEXANDER: I understand that. There is where there is going to be a big fight. All the protectionists will claim that this money is needed for the support of the Government.

MR. LUBIN: There could be a tax upon tea, coffee, etc., or on products not raised in this country.

MR. ALEXANDER: You could not raise enough on tea or coffee or sugar to pay the expenses of the Government.

MR. LUBIN: Not on those goods alone.

MR. ALEXANDER: You could not raise enough of those you have mentioned.

MR. LUBIN: We are supposed to have a number of able statesmen in this country whose business it is to devise a just mode of taxation.

MR. ALEXANDER: That is a problem that must be taken into consideration. These men will claim that there is a deficit in the Treasury now, and that every dollar is needed.

MR. LUBIN: I could not answer that, except by a figure of speech giving my idea of how that should be settled.

MR. ALEXANDER: I want to get in my mind the plan by which you could meet the argument of the gentlemen who are going to fight it. I am not arguing about the justice of your proposition, because I suppose almost anybody would admit its justice, and it ought to be right. If you take the Ways and Means Committee—this thing here would go before that committee naturally, and they would say at once that we need money to support the Government, and that it will take every cent



we now have, and that there is a deficit besides, with no money without increasing taxation.

MR. LUBIN: In answer to that, allow me to illustrate: A certain employer has in his employ a man receiving \$50 per month. The employé finds this compensation too small for his comfort, so he steals from his employer \$50 a month. He is arrested and tried. The employé's lawyer admits the theft, but asks the acquittal of the prisoner on the ground that the prisoner has used the stolen money to properly promote the highest interest of his (the prisoner's) family, by contributions to the church and by expenses attending the education of his children. The lawyer further moves that the employer be compelled to reemploy this dishonest employé at \$50 per month, and be further compelled to permit his employé to regularly steal from him the \$50 a month, as before the arrest.

MR. ALEXANDER: In the next Congress there will be about 150 majority of a different opinion.

MR. LUBIN: On the question of revenue for expenses I do not believe that I would care to enter into that in particular. I suppose you might have an inheritance tax, or an income tax. People want me to advocate two or three propositions, but I want to confine myself to the matter in hand. They ask me to advocate all manner of questions, even prohibition. I do not care to lose by bringing in foreign issues.

MR. MARSHALL: You have taken as a basis of your calculation one of the staple products, wheat, which you estimate at 600,000,000 bushels, about one third of which is exported to the world's markets. You estimate that a bounty of 10 cents on exports would increase the price to the producer, how much?

MR. LUBIN: Sixty million dollars, I believe, is the estimate.

MR. MARSHALL: Have you applied that estimate also to cotton and other farm products?

MR. LUBIN: Yes, sir.

MR. MARSHALL: But you say that on the basis of a tax of 10 per cent on exports the charge would be about \$22,000,000, which would come out of the duties now collected from imports. I wanted to find out your estimate of the charge, or probable taxation, upon the revenues derived from the imports in this country. You said that, if you deduct from the revenues now coming in, on a basis of 10 cents per bushel, the tax would be \$22,000,000 against the revenues of this country.

MR. LUBIN: It is difficult for me to make an exact estimate for all exports of agricultural staples.

MR. SIBLEY: If I may interrupt the gentleman right there, I would say that the export bounty would be 10 per cent on a total of \$800,000,000. That would take out \$80,000,000 from the Treasury, to be paid out of the amount derived from protection on the articles which now come in.

MR. MARSHALL: Assuming that we would continue on that ratio in future; but is there not danger that we might change that schedule?

MR. SIBLEY: I wanted to state what the charge would be.

MR. ALEXANDER: Mr. Lubin showed that it would keep up the price at home equal to the price of the world's market.

MR. LUBIN: I believe I showed that before the United States could lower the world's price for agricultural products it would have to be a much greater factor than it is now, because the factor of the United

States, as compared with the world, is not large. We cannot increase or decrease the world's price, except as a factor.

MR. SIMPSON: You have made it quite clear, and it has always been quite clear to me, that the consumer pays the duties on imports. I think that is pretty well understood. In view of the fact that the agricultural class is so situated and so disorganized that the duties are shifted from shoulder to shoulder, I think that at least that burden will rest upon the agricultural class.

MR. LUBIN: At present it rests on the agricultural class, on the producers of agricultural staples.

MR. SIMPSON: In view of the fact that under the present system the burdens are shifted, you admit that the importer charges up his profits on the case of goods, and that finally it comes to the consumer, who pays that shifted duty?

MR. LUBIN: No; but the producers of staple agricultural products—that branch of agriculture pays.

MR. SIMPSON: In view of this shifting of the burden, it must stop somewhere, and does it not, as a matter of fact, stop and rest upon the farmer? Will not that burden fall upon him at last?

MR. LUBIN: No; not at all.

MR. SIMPSON: It is like taxing yourself to make yourself rich.

MR. LUBIN: It would not work that way; it would be impossible for it to do so.

MR. SIMPSON: Please explain that, for that is very important to me.

MR. LUBIN: A short time ago the working man produced a \$2 hat. You as a producer came to me and traded that hat to me for 2 bushels of wheat; but to-day you want to trade it to me for 4 bushels of wheat. Is there not a difference in that?

MR. SIMPSON: Particularly so, if I wanted to buy a hat.

MR. LUBIN: You are producing the hat.

MR. SIMPSON: I am the gainer by the number of bushels of wheat which I get for the hat.

MR. LUBIN: It has apparently that effect upon you as a receiver of the wheat. My answer to that is this: The mode of distribution is one-sided. The farmer is at a disadvantage by the mode of distribution, and he will be so much better off as you shift the mode of distribution. This tax shifts it back to the other side and removes the burden from him.

MR. SIMPSON: As a matter of fact, here is a manufacturer who has now a surplus which he must send abroad. He is located in cities where they are capable of forming organizations for mutual protection to limit the amount of production. Here comes the laboring man with his labor organizations. He is concentrated in cities, and has organizations with which he protects himself in the amount of wages which he receives. The object of this system of bounties which you propose is to stimulate production. That is the object of the bounty upon sugar, to stimulate production, and increase the amount of sugar produced. If we offer this bounty it will have the object of inducing the people to raise wheat or other agricultural staples. Whenever it has the effect of increasing the supply, that will be added to the world's supply, and it will have the inexorable effect of lowering the price and put the product in competition with—

MR. LUBIN: What was your first question?

MR. SIMPSON: My first question was that it would have the effect of enhancing the value of those products under the present system of distribution, and that this burden would be shifted to the shoulders of the farmers at last.

MR. LUBIN: If the farmer waits until the laborer and the manufacturer rise up in their might and put him in a good, soft, comfortable position, he will wait a long while. It will never be done; but if the farmers organize, so that they can protect their interests as well as others protect theirs, they will receive some measure of justice. Justice is not free; it has to be fought for. I wish it to be understood that I am referring to staple products of agriculture entirely. The difference between the two interests is that manufacturers and labor have prepared for themselves this artificial cushion, as it were, from which a blow rebounds. This artificial device of theirs is elastic; but staple agricultural products run up against the world's price, which is solid, and it is like striking a block of granite. But if we provide an export bounty, it places staple agricultural products on precisely the same fighting level with the manufacturers and labor. It gives the farmer a show, and enables him to strike a cushion and not strike granite. It possibly may be the best thing for us all to strike granite absolutely, as in free trade; but I am not prepared to say whether it is either practicable or possible. That is another consideration; but as long as we have an artificial cushion, as is now provided for manufacturers and labor, then there is no reason why the producer of agricultural staples should not have an artificial cushion.

MR. SIMPSON: Your proposition is to let all strike something easy?

MR. LUBIN: Let all strike granite, or all strike a cushion.

MR. SIMPSON: You would place the farmer and the others on the same footing?

MR. LUBIN: Yes, sir. It would enable the farmer to give three bushels of wheat where he now gives four. It would equalize the mode of distribution.

MR. SIMPSON: Would not the effect of a bounty thus induce more people to go into the raising of agricultural products, until they increased the supply so that the same conditions would come about which now exist?

MR. LUBIN: No, sir; that would not be the case. For instance, formerly the price of wheat was \$1 25, whereas it is 50 cents to-day. Now the difference is 75 cents per bushel, and if you were to go to work to-day and give a bounty of 75 cents a bushel, I presume people would go to raising wheat on the house tops. If you would give a bounty of 1 cent, 3 cents, 5 cents, or 10 cents a bushel at the present price it would not be inducement enough to stimulate the production. There have been gentlemen who have argued that we must curtail our production; but these gentlemen do not know how dangerous that thing is. As we begin to curtail, the other part of the world begins to advance production. They increase production as we curtail it, so that we would curtail ourselves out of the production of staple agriculture altogether.

THE CHAIRMAN: Was there not a great factor at work throughout the commercial world in lowering the price of farm products during the period from 1884 to 1888, when the distribution of farm machinery began throughout the agricultural world, and had not wheat been falling gradually in price for ten years previous to this time—I mean not



only wheat, but cotton and the other great exported agricultural products of the United States?

MR. LUBIN: I presume you have reference to the depreciation of silver?

THE CHAIRMAN: I have.

MR. LUBIN: It would seem there are two parallel causes which have been operating in the lowering of values. Of course, the shrinkage in the volume of the circulating medium has the effect in lowering the price of labor and commodities, and the increase of the same has the effect of increasing the price of labor and commodities. By the demonetization of silver there was necessarily a shrinkage in the volume of the circulating medium; and, therefore, we conclude that this shrinkage causes some decline in the price of the agricultural staples. There may be a good deal of truth in that, but it does seem strange that while that law is thus interpreted by the principal political economists the shrinkage has not been general, but special. Other things have not declined in value to the same extent that wheat has declined. The answer is given that the poor producer of India did not know that silver had declined. After all, it is not the Indian in India, nor the Italian peasant in the Argentine Republic that guides the price. The persons who guide the prices are the practical Liverpool buyers—sharp, shrewd men, who will only accept the world's price after they have bought. We cannot see that there is any other law at work, but I do not know that it would be proper to ignore the law of silver, as there may be something in it. I am not prepared to say how much there is in that. If all values had been regular in their fall it might have been explained, but labor has been protected by an artificial system.

THE CHAIRMAN: An artificial system?

MR. LUBIN: It has been done by an artificial system, which has maintained prices artificially—the artificial price of the hat, the coat, or anything else for all hands round, except for the producer of agricultural staples.

MR. SIBLEY: It is art against artifice?

MR. LUBIN: That is it, exactly. I cannot illustrate it better. There is provided this artificial cushion. They punch at a cushion, while the producer of agricultural staples punches at a granite block. This is practical experience in commercial business. When things are high, they charge high. It does not hurt them. If they are down, they charge low.

MR. SIMPSON: The dealer sells on a percentage?

MR. LUBIN: Certainly. It does not hurt him any. They do not lose any sleep whether goods are high or low.

THE CHAIRMAN: I have studied this question very carefully, and I have listened to your statement with interest. There is no proposition to-day which can originate in the commercial world that looks to the betterment of the condition of the agriculturist to which I would not give serious and earnest attention. My information, study, and experience in the last twenty years have taught me that it is proven by absolute statistics, not only in this country, but throughout the world, that the sure and steady decline of agricultural products has gone on from the period of 1873 and 1874; and the fact that the English rupee in the country of which you have spoken, and that the ounce of silver in the commercial world is the measure of the price of a bushel of wheat to-day, and has been for a decade of years, convinces me that the price

of silver regulates the price of wheat. The commercial nations of the world have destroyed that metal as a money metal. In New York to-day wheat is worth the same as an ounce of silver, just about—wheat 50 cents; silver, 50 cents. I admit that your system, if adopted, would be simply another stimulant to a dying patient. His arteries have been cut; you would give him an ounce of brandy. I would stop the artery and stimulate him afterward. How can you make it effective unless you begin right? In my judgment, a stimulant given to a patient to-day in the way of a bounty can never benefit the farmer until we restore the money of the world to a proper purchasing value.

MR. LUBIN: I would like to answer that, because that has been proposed time and time again. In the first place, if you are to place silver up to as high as 129, and restore the old price for wheat under its most prosperous condition as a matter of equity, you would still have the agricultural staples pay for protection under the present protective system in operation.

THE CHAIRMAN: I admit the truth and the force of that statement, but that only relates to our own Government.

MR. LUBIN: My proposition relates to our own people and to our own Government entirely. Even if the price of silver were put to 129, and wheat to the full measure of its former price, it would still be a measure of injustice, not that we originally intended any injustice, but because the conditions placed us in that position.

The countries of Europe are in a different position from ourselves. Austria is not a great exporting country of agricultural staples. Germany is scarcely an exporter of these products at all. The tariff can operate there to a charm, and it would operate here, if we had no surplus. It is fortunate that we have a surplus. While giving credit to silver, and assuming for argument's sake that it should be as you say so that we will be arguing on a line, we must still face this fact that a few years ago the Argentine Republic bought flour. But in the first three months of this year they exported 1,000,000 tons of wheat to Liverpool, and they have an area under cultivation which is increasing very rapidly. The system there is a peasant system, with a lot of Italians for farmers, and with more or less peon labor employed. There is a vast difference between their system and ours.

In reading this little red-covered book, there are four or five sections devoted to that subject explaining the system in that country. There is a difference between the disposition of the crop in Argentine and in the United States, which I will presently explain. A new and serious competition has sprung up in a night, like Jonah's gourd, but it is different from Jonah's gourd, in the fact that it does not perish with the sun, but has come to stay.

The modes of disposition of the staple agricultural crops in the United States and in the cheap-labor countries are radically different. Our farmers have the produce exchange to go to, and they have the banker, and have means of holding back and managing the matter to some extent, and thus controlling the price; but it is not so with the peasant in Argentine. He is crowded by his master, who will tell him to bring his product down to the ship and land it on board for so much. He has no power to store it, or to go to the banker for relief or accommodation, and many of those things which we have here in this country. He is in the power of the peasant-tenantry system, and is substantially

in the fix that the people were in the feudal ages, when the barons controlled the production.

The price to-day is quoted in Liverpool, and the price of this Argentine product becomes our price, and we have got to accept it. If to-day the price of silver were 129, and the price of wheat under conditions in which they are to-day with agricultural machinery in the cheapest land and labor countries of the world, there is strong probability that wheat, notwithstanding, would be no higher, or would not be near as high as under the former conditions.

MR. SIBLEY: The increase has been very great, we admit, but is it not a fact that, taking the world's tables, that even within the last year we produced less wheat than we did ten or twelve years ago? We produced a less number of bales of cotton, and yet we get a lower price for it. Is it not a fact that the people of the Argentine Republic are paid on a silver basis, and that the people have never changed their quotations? Two and a half rupees is the same price to-day as it was formerly for wheat. The English have been benefited by it, because they buy an ounce of silver at 60, and buy wheat in Liverpool.

I have appreciated these remarks, and I can say that I have got a much clearer impression, and a much more favorable conception of Mr. Lubin's plan than I ever had before. I do not know whether the country is ready for it or not; but I want to say, for one man, that I can not deny the truth and the justice of his proposition.

THE CHAIRMAN: I think it is justice and equity.

MR. SIBLEY (to Mr. Lubin): But you must not leave out as a factor in this the intimate relation between the price of wheat and the ounce of silver and the pound of cotton.

If you take the index tables, with which I suppose you are familiar, they will show that silver alone, of all the moneys of the world, has maintained itself under all conditions at a parity. The ounce of silver buys as much iron to-day as it ever did. You cannot mention a product of labor with which an ounce of silver has not maintained its parity. Gold has gone up, and everything else has gone down. So I say, with your ability to set this matter forth, and with the interest you have taken in the subject, I think you ought not to lose sight of this proposition. You can help your people by your plan to the extent of about 10 per cent. That would help the poor fellow who wants to pay the interest on his mortgage; but if you can go further than that, in something which is of more use, and which will confer more blessings, then I want you to go that much further.

MR. LUBIN: This branches off on another subject. This has come up before. In meetings before the people it is our usual custom, after an address has been delivered, to call upon the audience to ask questions. In some cases, questions of an outside character being permitted, the debate has degenerated into a wrangle. As a Western man and a Californian, I think it is pretty near right to look at silver in the way that it deserves to be looked at; and I also find that in advocating propositions you must narrow down to one theme, and not take up five or six different ones. People have tried to shift me off on to a different line, and want me to advocate religion, prohibition, etc. We must confine ourselves to this one issue, and I will leave you gentlemen to take care of the other issues.

I want to state right here that the purpose of this proposition is to



create a better price for staple agricultural products. I want the agriculturist to punch the same bag the laborer and the manufacturer are punching. If that is not to be done, then let all three punch at the granite rock (the world's price) at the same time. That question must not be overlooked. Notwithstanding that the production, especially of wheat, has declined in the United States, as was mentioned by Mr. Sibley, the price has been fixed, to a great extent, by the greater increase in those cheap-labor countries, and they are now the principal factors. Silver itself cannot make things right just now. Silver would be all right if you would take away the machines which have been placed in the hands of this cheap labor. Take that away, and that would put wheat back where it was.

The colored man who said the "sun do move" made the mistake of not stating that the world moves. The brown and yellow races of men are coming to the front, and they have learned to manipulate the agricultural machines. That must not be ignored.

THE CHAIRMAN: This resolution which the committee is now considering is broad in its terms and wide in its scope, and the committee in passing upon it will, of course, not only take into consideration the one proposition presented by the gentleman from California [Mr. Lubin], but of course they will take into consideration anything that may be presented which, in the judgment of the majority of the committee, has tended to depress the value and price of agricultural products throughout the world.

My own conviction is, and has been for some time, and I arrived at it by a most earnest study of this question, more study than I have ever given in my life to any other economical question in the world, and that is, that while we have been trying as many kinds of expedients in finance and taxation and otherwise, that during that entire twenty years the price of farm products has surely and steadily fallen to a lower level. They would come up at times, but only to go still lower again. Nothing has stopped them in twenty years, nor do I believe anything will permanently stop them until that part of the money metal of the world destroyed in 1873-74 has been restored by proper action on the part of the commercial nations of the world.

The money conditions are far from what they ought to be. I believe the effect of that is more potential than all other causes combined, and that it has destroyed the value of agricultural products throughout the world. And in believing this, in taking up this or any other question relating to the values of agricultural products, I cannot keep my mind off it, because I cannot understand, when the world is producing a per capita in 1893 less than it did in 1883, that there can be any reason for these lower prices, unless it be founded upon the lack of consumption which comes from the scarcity of money.

MR. LUBIN: I would like to ask the chairman a question in this connection. Have you heard that cotton spindles have been introduced in Osaka, Japan?

THE CHAIRMAN: I have.

MR. LUBIN: That question has been up before some committee here. Women are employed eleven hours a day in Osaka, at 8 cents per day, spinning cotton. They work eleven hours out of the twenty-four, with two shifts of work, running day and night, with electric light. Now, supposing the women in Osaka were to compete with those in Fall River,

and in ten hours produce the same quantity of the product as the women of Fall River, who receive 60 cents to \$1 a day; and supposing that in Osaka they had the single standard and we had the double standard, what would be the effect?

THE CHAIRMAN: I will answer that. You speak of an extreme case, and I am speaking of the great commercial level of the commercial nations of the earth. The single standard, the settlement of all labor, and of all prices in a single metal that is so small in volume that a room 22 feet square will hold all the gold on this earth available for coinage, shows to my mind that it absolutely prevents the expansion of prices, and destroys the value of all values, except that of gold itself.

MR. LUBIN: Assuming without further argument that silver may accomplish these things you are speaking of, do you not also attribute the decline of the cost to the greater production by the cheap-labor countries to be a factor in lowering prices? Supposing Osaka displaces Manchester and Fall River combined, will you not agree that the almost infinitely cheaper labor there causes the difference, or a greater difference than that between gold and silver?

THE CHAIRMAN: It will have some effect, because standing between that cheap labor and the great consumption of the masses is the greed and avarice of the manufacturer and the middleman, who increase their products, as experience has shown, by lowering the product of the manufacturer; and it is not always the commodity which is manufactured at the lowest price that sells at the lowest price in the market. It depends upon the competition and the number of men to handle the commodity when it is put upon the market.

MR. MARSHALL: Then you think that the great compensatory law is the remonetization of silver?

THE CHAIRMAN: The depreciation of silver, being one of the two money metals of the world, in my judgment is the most potential of all causes which have contributed to the depreciation in values of farm products of the world, and that no system of legislation by any government will ever restore the former level of prices which does not include remonetization of silver.

MR. SIBLEY: That does not bring you and Mr. Lubin apart. I see the utmost harmony in your views.

THE CHAIRMAN: Mr. Leonard Rhone, Master of the Pennsylvania State Grange, is present, and, unless Mr. Lubin has some more statements to make, we will give the remaining time to Mr. Rhone.

MR. WEDDERBURN: It is now 1 o'clock, and perhaps he would prefer to be heard on Monday.

THE CHAIRMAN: I wanted to adjourn this hearing, because I was anxious that every member of this committee should be present, and I have no doubt that they would be glad to be present. We do not expect to close this hearing up for a month.

MR. WEDDERBURN: Mr. Rhone has come a long distance, and he represents the most important agricultural organization in the country. He says he is willing to wait until Monday, and I would rather that this should be done.

MR. RHONE: I came over rather hurriedly. The State Grange adjourned yesterday at 2 o'clock, and knowing that Mr. Lubin was out here, I was instructed by the National Grange to appear before you at any time that Mr. Lubin came. I therefore felt it my duty to come

to-day. I am not prepared at this moment to make any argument on this question. I heartily concur in what Mr. Lubin has said, but I think he has not fully covered the ground, for the reason that I do not think his argument applies to countries contiguous to our own, such as Canada or the South American States. I had occasion to investigate that. I found that wheat was put on board in Buenos Ayres at 40 cents a bushel. That wheat unquestionably would have found its way into Baltimore and New York, but it was kept out of our market by our tariff, only to come in competition with us in foreign markets. I think Mr. Lubin's idea of an export bounty, properly guarded, might be valuable. I think Congress, however, would not make an unlimited appropriation. I would prefer to have some other time to appear before the committee than the present. I do think the depreciation in the price of products has been from a combination of causes, and that it is the duty of Congress to carefully consider the agricultural interests, as well as the interests of the manufacturer, and ascertain the causes thereof. The downfall of agriculture in every country has proven the downfall of the country in all other kinds of business.

THE CHAIRMAN: The committee will meet on Wednesday, and at that time we will decide as to further hearings. I desire to express on the part of the members of the committee present, and I am sure it will be coincided in by those who are absent, our warm obligation to Mr. Lubin for his presence and the valuable and interesting statement which he has made, and which will go on the files of the committee. We are also much obliged to Mr. Rhone for his presence.

Thereupon, the committee adjourned until Wednesday, December 19, 1894, at 11 o'clock.

#### SECOND DAY'S HEARING.

COMMITTEE ON AGRICULTURE, HOUSE OF REPRESENTATIVES, }  
WASHINGTON, D. C., Monday, December 17, 1894. }

The Committee on Agriculture, having under consideration a certain resolution in reference to the depressed condition of agriculture, met at 10 A. M.

Members present: Messrs. Alexander, Williams, Shell, Sibley, Capehart, Hainer, Baker, and Marshall.

In the absence of the Chairman, Mr. Alexander took the chair.

THE CHAIRMAN: This is a called meeting of the committee to hear some gentlemen upon a resolution which has been laid before the committee, and is already in the record. The substance of the resolution is to inquire into the causes of agricultural depression and the remedies that might be suggested for the amelioration of existing conditions. I take pleasure in introducing Mr. Rhone, Master of the Pennsylvania State Grange.



## STATEMENT OF MR. LEONARD RHONE, OF PENNSYLVANIA.

MR. SIBLEY: I would like for Mr. Rhone to state whom he represents.

MR. RHONE: I am Master of the Pennsylvania State Grange, and a member of the Executive Committee of the National Grange. The resolution of your committee calls for inquiries into the remedy for the depressed condition of agriculture. I have a statement here, which I will read.

Mr. Rhone read the following paper:

Mr. Chairman, and Gentlemen of the Committee: The resolution before your committee calls for a remedy for the depressed condition of agriculture, and for the removal of the inequalities that exist in our country between the relative value of agricultural staples and manufactures as caused by legislation and the present policy of the Government.

Learning that such a resolution had been introduced, and that a hearing would be had before your committee, I came here under the direction of the National Grange to listen, and, if called upon, to take part in the discussion.

This question has been fully discussed by the National Grange, especially at its last convention at Springfield, Ill., and special attention was paid to a proposition presented by Mr. Lubin, of California, for a Government bounty on the exports of agricultural staples as a means of equalizing taxation, and the relative values between staple agriculture and manufactures. The matter, after an exhaustive discussion, was submitted to the State and subordinate granges, which were requested to study the proposition thoroughly. A resolution was also carried to bring this and the monetary question before a conference consisting of representative men from among the leading industries and interests in the United States. The leaders representing the great agricultural interest are to call this conference, for two reasons:

First, they desire to move on the broad plane of conservative progression, and are willing and anxious to frame thought in the direction of that catholic spirit of equity which will give weight to their conclusions with the American people. For this reason it earnestly seeks the wise counsel of those in other occupations and interests.

The second reason for this conference is to show to our fellow-citizens representing the other important interests of our country that the farmers of the nation have no concealed or obscured policy or aims. Our aims and aspirations, while in the interest of our industry, are in nowise against the interests of the other industries. . On the contrary, we hope to substantiate, at this conference, that the Republic cannot flourish unless the great industry which we represent is in a healthy condition. We hope, further, at this great conference to replace any wrong, preconceived notion by that broader line of conclusion reached by the interchange of opinion which shall replace right for wrong, and promote the development of a policy best calculated to advance the highest economic interests of the nation, and the greatest prosperity of all our people.

To return to the subject under discussion, we may say that those who desire to discover the inequalities under which the agricultural interest of our country suffers and labors will soon discover them.

I refer especially to that branch of agriculture producing a surplus for export, and which, by reason of this surplus, is sold at the world's price at home and abroad. It is maintained by political economists and by partisans that a duty on imports tends not only to largely advance the price of the imports, but of similar home productions. Experience demonstrates this to be true. But a duty on a product, a portion of which is exported, must fail in rendering any protection or advance of price, because a duty cannot do for an export what it can for an import.

The farmers being by far the largest exporters, cannot be benefited to the same extent as manufacturers and others who sell in a protected home market. As a result, the burden of the protective system must largely fall on the farmer. This is the inequality.

Not to be misunderstood, I wish to state again that this inequality is confined entirely to those agricultural staples, a portion of which are exports. It may occur to some that when the non-staple agricultural products are eliminated from this discussion, leaving only the staples under consideration, even though an inequality be admitted, that the inequality cannot be very great, as this portion of the agricultural interest may seem unimportant when compared to all other industries.

Those who come to such conclusions are in error, especially so when we realize that our manufactures in the main serve for internal traffic, whereas our staple agricultural products not only serve our own needs, but in addition furnish the great bulk of the commodity which we employ in exchange with foreign countries in payment for our imports, and in payment of interest on foreign loans.

The following figures will serve to illustrate the magnitude and the great value of these products: showing not alone that this industry deserves in our country to rank equally with all other industries, but it is equally valuable in serving us with that commodity which chiefly serves for the purposes of exchange with foreign nations, without which we would be obliged to meet our obligations in bullion, and which would bring us down to the use of a depreciated currency or to bankruptcy.

As to the importance of the staple agricultural products, we will take, for instance, the year 1893; we produced:

	Production.	Exports.	Retained for Home Use.
Corn ..... bushels	1,628,464,000	47,121,894	1,581,342,106
Wheat ..... bushels	515,949,000	119,912,635	324,036,365
Cotton ..... pounds	3,352,658,458	2,212,115,126	1,140,543,322

But let it be distinctly understood that the above by no means represents the entire volume of this industry, and is only given as a sample of the three principal items.

Mr. Lubin has, to my mind, properly traced many of the causes of agricultural depression to the efforts of England, and the remedy which he proposes, namely, a bounty on agricultural exports, is not a new proposition to me or to the National Grange. About four years ago the National Grange had this matter under consideration, and reported favorably upon the same.

In the report of the Executive Committee of the National Grange, at

its late session held at Springfield, Ill., in reviewing the depressed condition of agriculture, is the following:

In the opinion of your committee there are at least two ways open to a solution of the situation. The first is to diversify our crops and productions, and as much as possible build up for them a home market in our manufacturing centers. The other is by the Government paying an export bounty.

But to maintain our supremacy as a nation we must keep up the volume of our exports in order to maintain our balance of trade in the commerce of the world. Therefore we should not curtail the volume of our staple agricultural exports, for if we do we shall be obliged to meet our obligations in gold, and that would depreciate our currency and even further aggravate the present economic situation of our country.

There is, therefore, left for our consideration the question of the export bounty on agricultural staples as a means for the removal of some of the inequalities existing between that industry and manufactures. I certainly believe that some of the inequalities can be removed by the export bounty; but it would enhance the home price of agricultural staples. Would workingmen consent to this? They certainly ought to, if not for our interest, then for their own. For unless they do they will lose very much more by the lessened demand for labor, by reason of the reduced purchasing power which low prices of agricultural staples in our country bring about, than all that they may ever gain in reduced prices of these staples. The truth of this is clearly manifest by the conditions of the past few years.

There would be some consolation to those engaged in agricultural pursuits if there were any reasonable hope for the revival of former normal prices; but the new process of labor in the cheap-labor countries of the world precludes that hope. It may be that we have still a small advantage in the greater skill of our workmen in the use of agricultural machinery, but this advantage must be insignificant when compared with the former advantage when we were the almost exclusive users of agricultural machinery. Who does not remember when harvesting was done with sickle and scythe? Compare these with the labor capacity of the mower and harvester in the hands of even unskilled labor, and it will give to you a vivid idea of the enormous difference in the results of modern labor production with machinery. Apply this progress in every department of farm operations by those who until recently were scarcely any world's factor in agricultural production, and who now compose the principal world's factor in production and prices, and you will realize that we are confronted by a condition that we must squarely face and meet.

Now, as to the funds necessary to carry out this system. I favor the plan that the Government should first of all raise any revenue that it may require for its expenses in a just and equitable manner, and not at the expense or to the injury of any one industry, and if in addition it desires to enhance commodities or wages by a protective system, then that system should operate equitably by enhancing the prices of the products of our industry, as well as the products of manufacture. All this implies a protective system, and as long as such a system is in operation funds will be collected as duties on imports for protective purposes, and the expenditure of these funds, or a portion of them, on exports will balance any difference between manufacture and agriculture, and pro-



tect American industries against foreign countries and remedy the evils of the present system, which protects one American industry at the expense of another.

I do not deem it necessary to review the objections offered against this export bounty plan, for I believe that these have been fairly answered by the speaker preceding me.

In view of the claim made and of the urgent requirements of the country for that stable economic condition essential to the welfare of this nation, and in behalf of the establishment of that relation of equity and equality between agriculture and all other interests, an equality which we are justly entitled to, I respectfully petition your honorable committee to frame a bill embodying the proposition of an export bounty on agricultural staples, and present the same to Congress for its early consideration and action.

After concluding the paper he said: We do not pretend that the causes of agricultural depression are entirely incident to this proposition which is before us, but that it arises rather from a combination of causes. We therefore think that you must consider these causes separately, and apply the remedy just as a physician would apply a remedy for any special disease. So far as contiguous countries are concerned—for instance, South America and Canada—protection may keep their staples out of our home market; but at the same time we must meet those products in competition in the foreign market, and this measure does not change the price, except in our own country.

In presenting this argument I only want to say that the farmers of this country are greatly interested in this question, as you doubtless are aware. The market for wheat has been swept away. The market for our horses has been superseded by the electric railway systems throughout the country, and we are threatened with other industries in this country being destroyed. It occurs to me that there is no other subject which should receive more serious consideration at the hands of Congress than the condition of our agricultural people. We are not here in the interest of partisan politics, but in the interest of our own economic condition. The condition which confronts us must be met. It will only be a matter of time when the soil of this country will be owned by a few land-owners, as is at present the case in England, and our progressive, self-supporting people occupying farms must be reduced to a system of tenantry. I think this question is more important than any other which confronts the American Congress, and should receive careful consideration so that Congress can devise a plan which, to some extent at least, will revive the industry of agriculture in this country.

I did not come prepared to argue this question. I was brought here hurriedly, pursuant to the request of the National Grange, and I am only sorry that I cannot more ably present to you this question under consideration.

MR. HAINER: What export bounty would you suggest, for instance, on corn or wheat?

MR. ROHNE: In replying to the gentleman, I would say that England at the present time appropriates from four to five million dollars a year to maintain her merchant marine, in order to give her supremacy in the markets of the world. What amount of bounty should be paid in the form of protection is a question which must be determined by Congress. I said that I would set aside a certain portion of the duties on imports

to be used for governmental purposes, and out of the duties levied for protection alone I would set apart a certain portion to pay a bounty on exported agricultural staple products.

MR. HAINER: These are details, but I wish to get your general idea, for instance, of how many cents per bushel on wheat.

MR. RHONE: Undoubtedly it would have to be a fixed appropriation of a specified sum, amounting to a certain percentage of the duties on imports, to be taken, I suppose, from the import duties—at least as long as this policy by the Government is to be pursued.

MR. WILLIAMS: Your idea is to restore the equality between the two classes of industries which has been disturbed by protective legislation?

MR. RHONE: Possibly not entirely disturbed by protective legislation, but by the peculiar economic condition of the country.

MR. WILLIAMS: I understand that in your memorial you say that as long as the policy of levying a duty on imports lasts, which you think is necessary in order to the enhancement of American wages, there necessarily flows from it an inequality to the agricultural producer in favor of the manufacturer?

MR. RHONE: Unquestionably.

MR. WILLIAMS: In fixing the rate of export duty would you not be largely guided by that consideration, and would it not be wise and equitable to deduct as the rate of the bounty a certain proportion now collected on our imports to balance the rate of tariff protection which now exists?

MR. RHONE: Unquestionably; to keep us on an equilibrium.

MR. HAINER: Are we to understand that you argue that because we have protected the manufacturer, that that has necessarily operated to depress agriculture, and that the interests of agriculture would be advanced by free trade?

MR. RHONE: I did not so assert.

MR. HAINER: The gentleman from Mississippi did.

MR. WILLIAMS: That is what the memorial stated; and that is the fact.

MR. BAKER: Does the National Grange assert that the manufactures sold in foreign countries are advanced in price by protection?

MR. RHONE: I did not so claim. Only a small percentage of our exports are manufactures. There are over \$600,000,000 of agricultural products exported annually.

MR. BAKER: You are asking for agriculture something not extended to manufactures, are you not?

MR. RHONE: We are asking that the agricultural interests be put on an equal footing—

MR. BAKER: I would like a direct answer on that point.

MR. RHONE: I said in my memorial that an import duty unquestionably enhances the price when sold in the home market; but that does not apply to an export.

MR. BAKER: You are asking for agriculture something which does not apply to manufactures in the home market?

MR. RHONE: Not to the home manufactures in the home market.

MR. BAKER: It does not apply to manufactures. I would like to know whether that is what you ask for?

MR. RHONE: We are not here to discuss the manufacturing interests. They have been before Congress time and time again, and have advo-

cates here to look after their claims. Now the farmers claim that a portion of the import duty which is now clearly collected for protective purposes, ought to be set aside in order to even up the situation of the farmer with that of the manufacturer.

MR. WILLIAMS: To give it back into the pockets of the fellow who gave it.

MR. BAKER: Are you not asking for something which has not been heretofore granted to the manufacturer? Please give me an answer on that.

THE CHAIRMAN: The gentleman will answer, if you will give him time.

MR. BAKER: I will allow him any length of time to answer that question.

MR. RHONE: I want to say that we have no objection to paying an export bounty on manufactures for export. We are not opposing that; but we are here in the interest of agriculture, and ask that it should be evened up, and inasmuch as agriculture cannot be benefited by a tariff, we ask that a bounty be paid on exported products in order to place the farmer in the same position as the manufacturer.

MR. BAKER: Will you answer my question?

MR. RHONE: We are not opposing an export bounty.

MR. BAKER: I ask you if you are not asking something which has not heretofore been extended to manufactures?

MR. RHONE: No; I do not think it has been extended to manufactures.

MR. HAINER: You want protection in a different form—in a form adapted to the changed conditions?

MR. RHONE: Unquestionably.

MR. HAINER: The same form of protection given to the manufacturer will not protect agriculture.

MR. RHONE: Not in the same form.

MR. BAKER: Protection applies only to the home market, and you gentlemen are asking protection in the foreign market, which is a different question.

MR. RHONE: That is the policy pursued by Germany in reference to sugar, in order to maintain her supremacy in the sugar market.

MR. HAINER: Have you studied the effect of an export bounty on sugar in Saxony?

MR. RHONE: I have not. I know that it has been the policy of Germany.

MR. BAKER: Have you studied its effect thus far upon the bounty paid upon sugar in this country?

MR. RHONE: I have not. I am not interested in that, except so far as Louisiana planters are concerned. I want to say that I thank you very much for the privilege of this hearing, and also that I come here as a business man and a farmer, representing the farmers' interests.

MR. ALEXANDER: I would like to ask Mr. Lubin in regard to what effect machinery has had upon the development of agriculture in North and South Africa and the Argentine Republic?

MR. HATCH (in the chair): That is all in our record, and everything Mr. Lubin said will be published. If he desires to add anything further he can do so.

MR. LUBIN: I think you will find that in Mr. Wedderburn's paper, which he desires to read.

THE CHAIRMAN: Mr. Wedderburn will now be heard.



STATEMENT OF MR. ALEXANDER J. WEDDERBURN, MASTER  
OF THE VIRGINIA STATE GRANGE.

Mr. Chairman, and Gentlemen of the Committee: In regard to the question asked by Mr. Baker, I think that he will probably find when I have concluded that I have answered his question.

Mr. Wedderburn read the following paper:

Mr. Chairman, and Gentlemen of the Committee: I appear before you as the representative of the State Grange of Virginia, and, through the Grange, of the great agricultural interest of the Old Dominion. I appear here as a patron of husbandry, and, as far as it is possible for a man to divest himself, I hope I shall be free from prejudice, sectionalism, and partisanry, and desire to appeal not to your political passions, but to the honest desire to promote the agriculture of our country, which has been so noticeable in the work of this committee. I doubt not your wish to do something to save the grand industry which you have the honor to represent in the House of Representatives.

The American farmer is the greatest producer of our wealth, as he is also the greatest consumer of the products of manufacture, and is indirectly the employer of all American labor.

We are told that ours is a favored land; that we have great wealth and great prosperity.

Whether this is true or the reverse, there is no disputing that agriculture contributes more to the production of this wealth and of this prosperity, be it great or little, than all other classes combined. If this is so, and it is so, then it seems simple justice that this great industry should share in the country's prosperity. Whether other industries are willing to accede this or not, they are confronted with the inevitable—that prosperous agriculture means prosperity for all, and depressed agriculture means general stagnation.

That agriculture is now depressed and that our staple products are sold at ruinously low prices in competition with the world's products, cannot be and is not disputed.

If legislation has aided in bringing about this condition of depression, surely legislation should seek out the cause or causes and try to find the remedy.

If the farmers of America produce the greater portion of the nation's wealth, should it not be the part of the nation's legislators to carefully examine all causes that aid in the destruction of the source from which that wealth flows, and endeavor to find a remedy for the evil?

Having as many great and varied industries as we have in the United States, Congress is compelled to apportion these different interests to various committees, and it has fallen, gentlemen, to your committee to represent not only the largest but the oldest and best pursuit of man, and the one upon which all other men depend for support.

Recognizing the necessity for brevity and the greatness of the matter involved in this discussion, I shall condense my remarks as far as possible, and to this end will lay before you as part of my statement such figures as I have hurriedly gathered, and shall endeavor not to go over the ground trod by the gentlemen who have preceded me.

During the first session of the Fifty-first Congress (1889-90), I, representing the Virginia State Grange, appealed to the Ways and Means Committee, then presided over by Hon. Wm. McKinley, to protect the

American farmer substantially in the same manner as is advocated here by Mr. Lubin.

The paper presented was submitted to Dr. John Trimble, Secretary of the National Grange, and one of its legislative committee, and he approved of and joined in signing that paper.

The National, State, and subordinate-granges from Maine to California, from the Lakes to the Gulf, have for years been studying and discussing these questions, and the results have been that the American farmer has, without regard to party or section, arrived at the conclusion that two things are necessary: (1) Equalization of taxation; (2) Protection for all or protection for none.

Upon this equitable, fair, and just basis I trust you, as the representatives of farmers' interests, will be willing to consider favorably the plan presented by Mr. Lubin, of California, for relief.

The National Grange thoroughly discussed this whole matter and sent it down to the State and subordinate granges for discussion and consideration.

After discussion three State granges have indorsed it—California, Illinois, and Virginia.

Only on Wednesday, at Harrisburg, was gathered over 800 delegates, representing 50,000 farmers of the Keystone State, and as they listened to the arguments presented by Mr. Lubin they became enthused, and as he described the method by which a hat was made to increase in value from 2 to 4 bushels of wheat, they rose to enthusiasm.

In the annual address of the Worthy Master of the National Grange, Hon. J. H. Brigham, of Ohio, at the recent session in Springfield, Ill., we find a strong plea for the interest of agriculture. I shall take the liberty of extracting from his address in support of the proposition I am advocating here to-day.

On page 7, the Worthy Master says :

The low prices at which some of the staple crops must be sold, if sold at all, are causing farmers to economize in buying, which seriously affects trade.

In this paragraph Mr. Brigham not only supports the statements of Mr. Lubin, but states a self-evident fact, and unless the manufacturing and laboring classes recognize its truth before it is too late, the day is not far distant when the explosion of the home-market theory will be apparent to the most rabid protectionist. That trade is seriously affected by the inability of the farmer to purchase what he needs is so plain a proposition that no man of intelligence will dare dispute it.

Speaking of the tariff, page 8, Mr. Brigham says :

If this business question can be settled on business principles, and cease to be a bone of contention between political parties, confidence will take the place of doubt, business will revive, prospects will brighten, and "hard times" will no longer "linger about the doors" of our homes.

If this question is ever to be settled "on business principles," as suggested by Mr. Brigham, the plan of equalization as presented by Mr. Lubin seems to me to be the only way in which a business settlement can be arrived at.

Again, Mr. Brigham says :

We demand that there shall be no discrimination against the farmers' products. We see no reason why protection should be denied the farmer when ample protection is accorded to the manufacturer. The farmer will meet the competition which comes from

the cheapest pasture and labor of the world, if the products of the factory, furnace, and mine are required to meet similar conditions.

We demand that the law shall make no unjust discriminations against the farmers.

The farmers in the grange have never, and I trust never will, be found asking Congress to discriminate unfairly in favor of agriculture. What we want, what we need, and what we demand, is equal rights, equal protection, equal justice, and no discrimination against us. No man can truthfully say that he has ever heard a patron, who had authority to speak for the order, ask more than this, and he who would demand less for his class deserves not to speak for them.

Speaking of the depressed prices, the Worthy Master continues :

Theorizing and appealing to passions, ignorance, or prejudice will not help conditions. But if the real facts and causes can be made plain to the average farmer, he may be able in the future to guard against serious loss.

For a long series of years the farmers, of the United States have produced more wheat than the American people would consume, and the surplus has sought the European market. The price received for this surplus in Liverpool has governed the price of all wheat sold in the United States. In that market the American wheat comes in direct competition with the wheat growers of every country in the world which exports wheat; and when the world's crop is large, those foreign producers who have at hand an abundance of the very cheapest labor in the world, and have already introduced the best machinery, can eliminate all profit from the American product, and yet realize a fair profit on their investment in land and labor. Vast areas of fertile land are being annually added to the wheat fields of the world, and the improved machinery and transportation advantages now being introduced with vigor by our competitors abroad must increase competition among producers.

Here we have evidence of the highest agricultural authority substantiating the statements of Mr. Lubin, and I shall a little later give statistics to clinch the statement, if that were necessary.

Mr. Brigham continues on page 10:

#### IMPORTANT PROBLEM.

The problem is a grave one. It involves the manufacturer and laborer, as well as the farmer. In fact, every class and condition of society in the United States is seriously interested.

Alas, Mr. Chairman and gentlemen, this question is a grave one, and one that deserves your most thoughtful consideration, for in truth and deed "every class and condition of society" are seriously interested and will be seriously affected by the result.

When you eliminate your land-owning, home-loving, prosperous, and happy American farmer, then, sirs, you strike the death-knell of American prosperity and American liberty, and every class and every industry will find in the ruin of agriculture their own destruction.

Mr. Brigham continues:

When you touch agriculture, every industry responds, because agriculture is the basis of all prosperity. The principal customer of the manufacturer is the farmer. His net returns from the farm determines his purchasing power. If the price of his crops is reduced one half, his purchasing power is diminished to the same extent. Then the manufacturer must curtail production more than one half by reducing the number of employes, or by cutting wages. This reduces the purchasing power of the employe, and thus reacts upon manufacturer, merchant, and farmer. The industries of the United States will stand or fall together! Cheap wheat, cheap wool, and cheap cotton means more than cheap bread and cheap clothing; it means less work and lower wages. These staples have been reduced in price one half, or more, with the inevitable result. The all-important question is, will these low prices prove to be temporary or permanent?

Yes, cheap wheat, cheap wool, and cheap cotton mean less work and lower wages; and less work and lower wages mean the destruction of



the factory and the ruin of the homes of American skilled labor, which, in turn, will injure agriculture.

It is true, Mr. Chairman, that staples have been reduced in price one half. But has the price of the necessities of the farmer been proportionately reduced; and if not reduced to the same level, what must be the end? Take either end of the dilemma—consumption destroyed, production must cease to the same extent. This is an important question, and one that this committee should handle fearlessly.

Again Colonel Brigham substantiates Mr. Lubin when he says:

#### FOREIGN COMPETITION.

Heretofore the American producer has enjoyed the almost exclusive use of improved machinery. As has been stated, agricultural machinery is now used by the cheapest labor countries of the world. There was, in 1893, exported from the United States to Argentine agricultural machinery to the value of \$1,620,450, and Great Britain sent to the same country the same year as follows: Implements, \$235,436; agricultural steam engines, \$1,174,028; agricultural engines, not steam, \$791,620; making a total of \$3,821,174.

England, Germany, Austria, France, and Belgium each contain large plants for the manufacture of modern agricultural implements and machinery, and these find a market in North Africa, Asia Minor, Hungary, the Danubian provinces, Russia, India, Egypt, Australia, and South America. The Rural Press, of San Francisco, in its issue of October 13, 1894, states that negotiations are now pending between the principal California manufacturers of combined harvesters and the Government authorities of Argentina for the removal of the California plant to that country.

Agricultural machinery in the hands of the cheapest field labor in the world, and on lands as fertile as ours, and much cheaper besides, has created a new and adverse economic condition in our country, that nothing short of the greatest wisdom on the part of the American people can overcome.

#### SHALL WE CURTAIL PRODUCTION.

We are sometimes advised to curtail or abandon the production of staples which can be produced elsewhere at less cost, but what shall take the place of these staples?

#### IMPORTS AND EXPORTS.

In 1893 we imported \$844,454,583 of the products of foreign labor. They were paid for principally with the products of the farm. If we curtail, what shall we send abroad in payment for what we buy, and pay interest on our foreign debt? Will Europe take our manufactured products in lieu of wheat and cotton? Europe sells manufactures and buys bread and raw material. We must continue to sell what Europe wants to buy, or stop buying of Europe.

#### SHALL AGRICULTURE BE PROTECTED?

They will pay us no more than the price paid the ryots of India, which price governs prices here under present conditions. What is to be done? The people appear to have decided to protect American labor engaged in manufacturing. Is there any help for the producer of wheat, wool, cotton, etc.? Will public officials, ministers, lawyers, doctors, teachers, and wageworkers accept half the pay now received? Will manufacturers, merchants, and railway managers accept half the profits heretofore enjoyed, or join with us in devising some other and better way of equalizing conditions?

It is useless to comment upon the strong statement of Colonel Brigham; he has presented the case as concisely and as strongly as language can put it. He depicts the number and character of our competitors. He shows the extent to which machinery, the result of American genius, has been made to act as the cause of reducing the price of American products. He states clearly the fact that we buy over \$844,000,000 of the world's products, which must be paid for, but we have besides to pay for many millions of interest on bonded indebtedness, which will greatly augment this sum.

We cannot pay this in gold and silver coin or in bullion, because, with all our wealth, we have not got so great a sum. If we had the world's supply, as shown by Mr. Lubin, we could not pay our debts for more than a few years; and then—afterwards the deluge.

Agricultural staples under protection will furnish the bulk of the means by which we can meet our obligations to the world for the products we purchase from it, and to attempt to delude ourselves as to the danger of the loss of this trade is not only ridiculous, but it is criminal.

This part of the report of the Worthy Master of the National Grange was referred to the committee on agriculture, whose chairman was that distinguished and able son of Indiana, Hon. Aaron Jones, Master of the State Grange. His committee, by a unanimous vote, indorsed the report, and say:

"Your committee have carefully considered the same, and we recommend that portion of the address" (the portion above quoted) "as being true in fact and sound in principle, and it contains much food for thought, not only to American farmers, but to all engaged in industrial enterprises. The situation is a grave one. In a country like ours no great industrial interest can be ignored or destroyed without seriously injuring every interest of our country. The manufacturing, laboring, business, or professional men have a common interest with us in promoting the prosperity of the agricultural classes of the country. The wisest statesmanship should be at once applied to support the efforts of farmers in devising ways and means of securing more profitable returns from the vast investments in agriculture, on which the future growth, prosperity, and glory of our country depend."

Mr. Jones and his committee have thus clearly and forcibly stated the situation, and deserve the thanks not only of the Grange, but of the country. If I mistake not the report was unanimously adopted. It was certainly adopted without division by the National Grange.

Now, Mr. Chairman, the executive committee of the National Grange is a body of very intelligent gentlemen. They are conservatives, and are true to the cause of agriculture, and they represent the various political parties of the country, but, like true men should be, they are more devoted to agriculture than to politics.

This committee is composed of Hon. Leonard Rhone, of Pennsylvania, Chairman; Hon. J. J. Woodman, of Michigan, Secretary; Hon. R. R. Hutchinson, of Virginia, and Worthy Master J. H. Brigham, of Ohio. According to grange law this committee submits an annual report. The report this year was unanimous and signed by all of the gentlemen named above. I extract from it as follows:

Owing to the depressed condition of agriculture, your committee deems it its duty to call to the attention of the National Grange the gravity of the situation, and urge upon it the importance of giving the adverse condition of agriculture its most serious and earnest consideration.

As to the low prices of wheat and cotton and their cost of production, it is not probable that there will be much improvement for years to come, as with the application of new machinery our foreign competitors on the Eastern Continent—Russia, India, Egypt—and on this continent—the South American States—will soon double their productions at a much less cost, with their cheap labor, than we can produce them. In the opinion of your committee there are at least two ways open to a solution of the situation. The first is to diversify our crops and productions, and, as much as possible, build up for them a home market in our manufacturing centers. The other is by the Government paying an export bounty equal to the cost of transporting, so as to put our wheat and cotton on the foreign markets on equal footing with that of contiguous countries.

That the situation is serious, Mr. Chairman, no one doubts; but these conservative land-owning tillers of the soil direct attention to it—these Republican and Democratic farmers, died-in-the-wool, old-fashioned, conservative farmers, say that the situation is serious. Under such circumstances what do you expect the other farmers to say about the matter which concerns their every interest?

Now, this committee is composed of men who have been honored by the Grange—the great conservative agricultural organization, the one

organization of farmers that leads the fight for agricultural relief, and which has stood by that principle for twenty-eight years; eschewing politics and side issues, it has stood firm to one and only one idea—the advancement and uplifting of the tillers of the soil. When this great order, through its chosen leaders, says that the condition is serious, we must conclude that it is time to repair the wrong and prevent disaster.

These gentlemen present two remedies for the disease: (1) Diversified agriculture; (2) A bounty upon exports.

As to the first, if we were to diversify our products under present conditions, until we reached the acme of the home-market idea, what would be the result?

The price of agricultural staples, without a surplus, would rise and the price of our other agricultural products would correspondingly decline; but the question to be considered is, how would we meet our liabilities for indebtedness for our exports and interest on the many millions of national, state, county, and corporate bonds held by foreign countries? Can we sell our foreign creditors our protected manufactures? Not very readily.

Without further comment I might add that this portion of the subject has been very satisfactorily answered by Worthy Master Brigham of the National Grange.

The impracticability of selling all our products in our home markets, under present conditions, must be apparent, and we are compelled to resort to the second plan. We find that the surest relief that can be afforded the farmers, as long as protection to manufacture exists, is to take the money, or a portion of it, collected for protection and use it to pay a premium on agricultural exports, thus protecting both manufacture and agriculture equitably. This report was also indorsed by Mr. Jones's committee, and that indorsement approved by the National Grange.

I stated above that I would clinch the statement of Colonel Brigham by figures, and I propose to do so by giving an extract from the report of the statistician of the Agricultural Department for November, 1894. On pages 683 and 684 it will be seen that this report bears out Mr. Lubin in his statements as to the rapid increase of production caused by the introduction of labor-saving agricultural machinery into Argentine:

#### ARGENTINE REPUBLIC.

Consul Baker, of Buenos Ayres, under date August 28th, states that it is quite impossible to gather reliable statistics as to the probable extension of the wheat area in the Argentine Republic during the next two years. As heretofore mentioned, there is no official agricultural bureau or statistical office, whose duty it is to collect information on growing crops and their harvest.

"Every one interested makes his own estimates, and they are generally so wide asunder that their merest statement shows them to be only guesswork. Generally speaking, all we can know in regard to a wheat crop is after the harvest is over and the wheat has been shipped. At the end of each year the custom-house returns show how much has been exported. To these figures is then added what is supposed to have been the home consumption for the year, and thus is obtained the total of the harvest. As to the areas in wheat, or the yields per acre, there is no official knowledge on the subject. Taking mere estimates, however, I have to say that Señor Latzina, of the bureau of custom-house statistics, gives the following as the area in wheat for the years named:

Year.	Hectares.	Acres.
1883	243,500	601,689
1892	1,322,006	3,266,662
1893	1,983,000	4,899,993



"What the wheat area is for the present year can only be estimated, and there is a wide difference in the views of those who are figuring on the crop. Mr. Mulhall, of the 'Buenos Ayres Standard,' gives it as his opinion that the area is upward of 50 per cent more than in 1893; that is, 2,974,000 hectares, or, say 7,348,754 acres. On the other hand, a well-informed gentleman, who has for years given this subject his attention, assures me, after having traveled through the provinces of Buenos Ayres and Santa Fe, that the wheat area for the present year is only about 10 per cent more than it was in 1893; or, in other words, that it is 2,181,300 hectares, or, say 5,389,992 acres. And he explains that, owing to the unprecedentedly low price of wheat during the last year, many farmers have put their land down in flax as a more promising crop. What the yield of wheat will be is also mere conjecture. The fields at the present time are looking well, but between now and harvest the country may be overrun with a plague of devastating locusts, or wet weather may set in and spoil the head.

"As a matter of comparison I bring down the table of wheat and flour exports from the Argentine Republic so as to include 1893 and the first half of 1894, as follows:

Year.	Wheat.	Flour.
	<i>Metric tons.*</i>	<i>Metric tons.</i>
1882.....	1,700	-----
1883.....	61,000	-----
1884.....	108,499	3,734
1885.....	78,493	7,447
1886.....	37,864	5,262
1887.....	257,865	5,442
1888.....	178,928	6,392
1889.....	22,806	3,360
1890.....	327,894	12,117
1891.....	395,555	7,015
1892.....	490,109	18,849
1893.....	1,000,137	37,521
1894 (6 months).....	1,029,546	20,628

\* One metric ton is equivalent to 2,204.6 pounds.

"The returns of wheat shipments for the first six months of the present year, it will be seen, are greater than the entire shipments of any preceding year. How much wheat of the last crop still remains in the country it is not possible to say; but it is now the close of August and the shipments continue to be large and continuous, a large number of vessels still being under charter for wheat cargoes."

On page 100 of the March reports of the same department we find that the exports from other countries for the years named were as follows:

	AUSTRALASIA.	Bushels.
1891.....	-----	32,839,000
1892.....	-----	35,963,000
1893.....	-----	41,161,000
	RUSSIA.	
1883 to 1890, average.....	-----	83,170,011
1891.....	-----	168,846,000
1892.....	-----	241,579,000
1893.....	-----	321,497,000

In addition, Russia ships large quantities of rye, about four times as much as wheat, and what is more surprising, we find her raising and exporting our own native plant—Indian corn (maize)—to the extent of 861,000 quarters of 480 pounds each, equal to 6,888,000 bushels, in 1893.

The Department of Agriculture statistical report for March, 1894, on page 144, says:

The conclusion of the commercial treaty between Russia and Germany, by which the latter country reduces by one half the duties on cereals, will reopen the German market to Russian rye, and the probable result will be a falling off of German importations of American wheat.

We find on page 13 of report 5 of the same department the further statement that the net imports and exports of wheat of the principal countries of the world for 1890 were:

	Bushels.
Net exports .....	248,704,109
Net imports .....	240,942,325
Excess of wheat seeking a market in 1890.....	7,861,584

## TOBACCO.

From the same report we find that each year is adding to the competitors for our tobacco trade, and we are faced with tobacco selling at from 3 to 6 cents a pound, or less than it costs.

## COTTON.

In 1890 the United States (by the same report) produced 55 per cent of the world's crop; but this percentage is steadily decreasing, although our crop increases each year, but not in the same proportion as that of other nations. Our planter must meet the problem of how to raise cotton which costs him  $5\frac{1}{2}$  cents and sell it for 5 cents, and this in the face of continued and increasing competition with Turkestan and Egyptian lands and labor and this growing industry in Argentine.

## COMPETITION WITH AGRICULTURAL MACHINERY.

An increased acreage and yield on fertile lands, worked by the cheapest labor in the world, compels the American farmer to demand protection and insist that he no longer be discriminated against. But land and labor are not the only competitors that we have, for we find that the peon, moujik, fellah, ryot, and coolie have had placed in their hands the most improved agricultural machinery, invented principally by the Americans and largely manufactured in this country, and exported (see report of Colonel Brigham, quoted in the first part of this statement, headed Foreign Competition). For the benefit of those who believe in protection and not in bounties, I desire to say just here that the tariff which protects is a bounty, and nothing else; but the men who make agricultural machinery and export it are given a *special bounty* by being permitted to import their raw material, and when their products are exported to receive back from the Treasury 99 per cent of the tariff paid in by them. Speaking on this subject the "Chicago Times," November 13th, says:

## CERTAIN TARIFF INEQUALITIES.

Complaint is made of the low price of wheat, as of all breadstuffs. The American farmer is the victim of this diminished value of his product, because it is asserted he is not sufficiently protected by existing tariff laws.

The American wheat producer competes with the wheat grower of South America, of India, and of Russia. He competes, too, with the producers of breadstuffs wherever raised. The protection laws as they exist under the Wilson enactment, and as they have existed during the whole era of protection, spoke the word of promise to the ear of the American agriculturist and broke it to the hope.

What is the specification? Labor-saving farm machinery originated in the United States. That machinery is sold in India, Russia, and South America. It is put down at the barn-yards of foreign wheat growers, notwithstanding their distance from the place of manufacture, at a price much lower than the American farmer is compelled to pay to the manufacturer, though he is immediately in the neighborhood of the factory.

Protection has enabled the maker of agricultural implements to levy a toll upon the American farmer far greater than he demands from the South American, the Indian, or the Russian agriculturist, whose product comes in the markets of the world in direct competition with the farm product of America.

And that disadvantage to the American farmer is to be still further emphasized. Upon the plea of benefit to American manufacturers and laborers the drawback system has been authorized. He who imports a manufactured material into this country, and changing its form or its use, exports it, is entitled to a drawback of the entire amount of duty paid, less 1 per cent. The agricultural implement makers of the United States have discovered that by purchasing steel in England they can employ it in their implements at their manufacturing in America and send these implements to their customers the world over outside of the United States and get the benefit of the drawback, thus helping them still further to accommodate the customer abroad while compelling the customer in America to pay an enhanced price.

On page 106 of the Statistical Report of the Agricultural Department for March, 1894, we find that the cost of producing an acre of wheat is estimated at \$5 53 and of an acre of corn at \$3 50 more than its market value. Such statistics only strengthen our position and prove the necessity for remedial legislation in the interest of agriculture.

In conclusion I quote as follows from the same report:

During the pinching times of the past fall and winter, many a crust and many a fragment of stale bread which ordinarily would have found its way to the swill-barrel has undoubtedly been used to satisfy human hunger, or to ward it off. This has been the case not merely in occasional instances, but in millions of families; for besides the cases of pinching want arising from actual loss of employment, there has been a still larger number in which employment has been only partial, or in which wages have been materially reduced. Even among many of those in comfortable circumstances there has been increased care in the saving of food for the benefit of the needy, on whose behalf the appeals for help have been so frequent and so urgent. If the cheapness of wheat during the period in question may seem to have been favorable to a continued use of an unstinted supply of bread, it must be observed, on the other hand, that the price of baker's bread has not generally fallen, and that the large proportion of our urban population, who depend on such bread, have not received the normal benefit due them as a result of the low price of wheat.

If this is correct, it simply shows the workingman that cheap wheat is not to him a blessing, because he is not directly benefited by the reduction, and he should also recognize that to lower the price of the product destroys his customer and ruins his trade.

"Princes and lords may flourish or may fade,  
A breath can make them as a breath hath made;  
But a bold peasantry, their country's pride,  
When once destroyed can never be supplied."

At the conclusion of the paper, Mr. Wedderburn said to Mr. Baker: "I think the drawback system answers your question. You wanted to know whether manufacturers are protected in like manner as we propose for the farmer. All iron and steel manufactures exported, and which sell in competition with the foreigner, get a drawback of 99 per cent of the amount of duty paid into the Treasury when they are imported."

MR. BAKER: Admitting that portion of your argument for the time being, would you not be satisfied to have a clause by which you could import any article like fertilizers?

MR. WEDDERBURN: We have free fertilizers now.

MR. BAKER: In what respect, under existing law, do not the manufacturers and the agriculturists stand upon an equal footing, so far as the home and foreign markets are concerned?

MR. WEDDERBURN: We (the farmers) simply have to pay the profit on the cost of protection; as well as the duty.

MR. BAKER: You are going into theory on a subject that does not come before this committee. Has not the agriculturist, under the present law, the same rights as the manufacturer?

MR. WEDDERBURN: No, sir.



MR. BAKER: I agree with what the gentleman has said in regard to the importance of agriculture and its depressed condition, and I want to reach, as he does, some proper and legitimate way in which the agriculturist can be benefited. Under the existing law, what suggestion is there that the agriculturist has not had equal rights and privileges with the manufacturer?

MR. WEDDERBURN: Under any law that gives the manufacturer even incidental protection for an import, the agriculturist must pay not only that protection, but the profits upon it.

MR. BAKER: I am not going into theory on that subject. What I want to know is this: In what particular has the manufacturer an advantage over the farmer in relation to the export markets of the world?

MR. WEDDERBURN: The manufacturer simply keeps out his competitor, and the farmer has to meet that competitor by going to Liverpool.

MR. BAKER: I suppose the agriculturists of this country are so protected that foreign agricultural productions are not permitted to come into this country. Is not that the case?

MR. WEDDERBURN: He cannot fix the price of his products.

MR. BAKER: The manufacturer's prices are fixed abroad?

MR. WEDDERBURN: To get over this wall (protection) he is protected. The farmer has no such advantage.

MR. BAKER: That applies only to the home market of the United States, and not to the export trade.

MR. WEDDERBURN: The manufacturer and the farmer have the home market.

MR. BAKER: They stand on an equality as to the home market.

MR. WEDDERBURN: No, sir; because the price of the manufactured product is fixed not only by the price of his competitor, but by the price abroad, plus freight, plus duty, and plus profit on duty and freight, while the farmer's price is fixed in the world's market.

MR. BAKER: I am not talking about what any man has to pay for manufactures or agriculture. With equal tariff laws the agriculturist and the manufacturer will be equally protected.

MR. WEDDERBURN: Equal tariff laws? That is what we are trying to get.

MR. BAKER: You are advocating a bounty ?

MR. WEDDERBURN: You give the manufacturer protection or bounty against the man on the other side. We do not care how high you build that wall, but we want you to build it so that it will also protect us at the same time and to the same extent.

MR. BAKER: Your proposition is to work two ways?

MR. WEDDERBURN: That is the only way it can be done. You have one way and I have one way. Your way will help the manufacturer, and I want to help the farmer.

MR. BAKER: In the report which you and other members of your executive committee made to the Committee on Ways and Means, you said, when you appeared before the Wilson committee, that the farmers did receive protection under the McKinley bill. That report was signed by Mr. Brigham, Mr. Rhone, and Mr. Trimble.

MR. WEDDERBURN: That was in regard to the articles that are non-staples, such goods as beets and turnips. Along the border in Canada or in Mexico, a tariff might protect us against the Mexican hen, or the French Canadian hen; but it has no effect in protecting our staple prod-

ucts which are exported and which comprise over \$600,000,000 worth of American exports, the price of which is fixed by the level of competition with the world's markets.

MR. BAKER: Does not the whole question turn on the one point that the manufactured product has not equaled the country's consumption, and the agricultural products exceed the country's consumption?

MR. WEDDERBURN: To say that our manufactures are not equaling our consumption is not a fair proposition, because if the farmers were prosperous they would consume a good deal more. But we do export manufactured products to the amount of near \$200,000,000. The farmers do not eat many manufactured products.

MR. BAKER: The manufacturers eat agricultural products, and only by increasing manufactures can you increase that consumption. Suppose manufacturers produced \$500,000,000 worth for export. Would you favor the bounty being put so high that they could compete abroad?

MR. WEDDERBURN: They cannot sell abroad, on account of the protection machinery.

MR. BAKER: You do not claim that machinery increases cost?

MR. WEDDERBURN: I am talking about the tariff machinery.

MR. BAKER: Does that enable him to increase the price of anything in production except the price of labor?

MR. WEDDERBURN: Anything except the price of labor. That comes mighty near to politics.

MR. BAKER: So does your whole scheme.

MR. WEDDERBURN: That may be. I do not object to politics, but only to partisanship.

MR. BAKER: I do not think you gentlemen fairly present your case before this committee.

MR. WEDDERBURN: We do most undoubtedly try to so present it.

MR. BAKER: If your order is moving on that line, in my opinion it is moving incorrectly.

MR. WEDDERBURN: This organization represents the agricultural interests in this great country, and it has come to the front to demand equal protection, and any man who does not demand that does not deserve to represent the agricultural interest.

MR. BAKER: My point was that it is not demanding equal rights, but is demanding extraneous rights which have not heretofore been granted to any industry in this country.

MR. WEDDERBURN: I want to close, so as to give way to Mr. Lubin for a few minutes.

MR. HAINER: Your entire argument thus far has proceeded upon the theory that under the operation of tariff laws prices have been raised. Let me ask you to cite a single case where tariff has been imposed upon an article produced in this country in quantity sufficient to supply our home demand where the price has not gone down under the operation of the tariff.

MR. ALEXANDER: Take jute bagging.

MR. WEDDERBURN: I would be very glad to appear later before the committee and answer these questions in full, for I think I could do so if I had the time.

## STATEMENT OF MR. DAVID LUBIN—Continued.

Mr. Chairman, and Gentlemen of the Committee: I do not know whether the figures requested by Mr. Baker in reference to the exports of agricultural machinery to foreign countries were given by Mr. Wedderburn.

MR. WEDDERBURN: They appear in some extracts which I inserted, but which were not read.

MR. LUBIN: I have some few figures here which I will read. Here is a statement by the Worthy Master of the National Grange which gives the agricultural machinery exported from the United States to Argentine as \$1,620,450; and from Great Britain, implements, \$235,436; steam engines exported from Great Britain, \$1,174,028; agricultural implements, not steam, exported from Great Britain, \$791,260; total exported from Great Britain and the United States in 1893, \$3,821,174. I think that answers Mr. Baker's inquiry.

MR. BAKER: Is there any difference under existing statute between the advantages given by law in this country to manufactured products and agricultural products sold abroad? That is, has the agriculturist been in any way placed under disadvantages by United States statutes in relation to that portion of his product sold in foreign countries?

MR. LUBIN: Yes, sir; to the extent of the export bounty which amounts to 99 per cent of the duty on certain manufactures, the raw material of which was imported.

MR. BAKER: Are not comparatively the same things allowed pro tanto to agricultural products, such as fertilizers, so far as it is possible to apply the law?

MR. LUBIN: The question before us is: How to protect agricultural products? That is the question we are talking of.

MR. BAKER: Agricultural products sold abroad?

MR. LUBIN: Agricultural products sold abroad have not those advantages; on certain manufactures now exported the manufacturer gets 99 per cent of the tariff back.

MR. WILLIAMS: Owing to the protective tariff—for instance, agricultural implements—is it not a fact that the manufacturer is unable to compete in the world's market with manufacturers of other countries; but by the drawback system is enabled to sell at a low profit, and sometimes at no profit, and sometimes sell at a loss to foreigners, and is thus enabled to recoup his loss, or insufficient profit, from the people at home on that share of his product sold in the home market?

MR. BAKER: That is a cat with a long tail.

MR. WILLIAMS: The makers of agricultural implements have gotten out two catalogues.

MR. BAKER: That has been denied, and I think the gentleman knows it.

MR. WILLIAMS: I know that it was denied.

MR. BAKER: I would like to have these gentlemen who come before the committee to inform us upon the supposed statutes, say in definite terms what disadvantage the agriculturists are laboring under in the market which does not apply to the manufacturer?

MR. LUBIN: If Mr. Baker will allow me, I would like to make a statement in my own way, and then I will submit to any cross-examination which he thinks necessary. It seems to me, Mr. Chairman, here is the



American people, and there is a certain American industry. We desire to have all American citizens upon a higher plane of civilization than exists on the other side in Europe, Asia, and Africa, etc., and in order to do that, we have erected an artificial wall so as to keep away the products of those cheap-labor countries, and we have thus created a civilization such as we desire. In doing that—by raising this tariff wall high enough—we have created a little world within ourselves.

The enhancement created by reason of this artificial wall must be paid by some industry as long as we keep up the system. To illustrate: Uncle Sam has had one hand chained to a cake of ice (the world's price), but underneath his hand on the ice was a pad of rubber. That pad of rubber was agricultural machinery. That pad, however, is getting thinner and thinner until the ice has begun to congeal the blood and prevent healthy circulation not only of the hand and arm, but of the body. And so of the body politic, healthy circulation is necessary for our progress. To continue, that want of free circulation would eliminate every free worker in the land, because this artificial wall is apparently not much greater than it has been heretofore; but in reality it is double or quadruple, without its being apparent, for the decline of the world's price on staple products is equivalent to the raising of the wall, because as the price has declined the protective tariff is practically now that much higher than it to-day seems to be.

Of course we have now some modifications of the tariff; but I made an inquiry of a practical man as to what difference there was in the McKinley bill and the Wilson bill on our stock of half a million dollars, and he said it was a little early to judge, but he thought that it would take a very finely scented nose to smell the difference. There is practically none to the consumer. It is a little here and there, but on the general average it is substantially the same thing. The world has now put forth its brown and yellow men with their cheap labor now using agricultural machinery, and with land in Argentine at or a little over 10 English shillings an acre, the time has come when you must either remove this tariff entirely, and let us meet the world face to face, or you must equalize the differences by giving the producer of agricultural staples the same artificial protection which you give to the manufacturer.

While your question (addressing Mr. Baker) was very adroitly and cleverly put, and while you deserve to be complimented for the manner in which you framed it, yet as to the real question of protection it is not covered. The fact that of the \$800,000,000 worth of exports \$615,000,000 have been staple agriculture, and only \$158,000,000 worth have been manufactured, of which part was staple agricultural products in a certain stage of manufacture, shows that the exported manufactures cut very little figure. The protective tariff wall enhances the value of the vast bulk, almost all, of the articles manufactured within the United States. Now, the exported agricultural products are significant in this, not that it touches the prices of the export of the agricultural products alone, but on account of the greater quantity consumed within the United States, for as soon as we have a surplus of these in this country the price must necessarily be the price ruling in Liverpool, less the cost of transportation from the place of production to Liverpool, even though the product consumed may be within a few feet of the place of production.

When I produce wheat I am obliged to sell the surplus in Liverpool. As soon as I do the remainder for home use will sell for no higher than

the world's price, less the cost of carriage to Liverpool, even though it be produced at the consumer's feet. This being the case, the economic conditions may be stated in these words: The skilled workingman receives \$2 a day by reason of protection; that is, his wages in Austria would be a florin at the free-trade price. He receives \$2 a day in this country, and the trades unions keep that price up. A new condition is arising whereby the brown and the yellow man comes to the front with the use of machinery, which has driven down the price of staple agriculture one half. A short time ago the man having two bushels of wheat to exchange for a hat went to the producer of the hat and said to him, "I will exchange these two bushels of wheat for your hat." What does the producer of the hat say now? He says, "No; I want four bushels of wheat for the hat." This doubling-up process is crippling and eliminating the agriculturist.

I know the views of the party to which you (addressing Mr. Baker) belong. I am a representative of the same idea. I am in favor of protection, absolutely. I realize that the party with which you affiliate is honest and sincere. It only remains for that great party to study this great economic question, so that it can understand it. It is not a difficult abstract question; but, fortunately, it is so simple that every one who desires may understand it thoroughly.

It is absolutely impossible for the producer of agricultural staples to double up in exchange. He will be eliminated, and ultimately labor will be injured. The producer of the hat will go on persistently wanting four bushels of wheat for what formerly he exchanged for two bushels, not perceiving the danger; but ultimately the laborer is to get a blow from the shoulder, and he will be hit hard, for his food supply will be cheap enough, but the purchasing power once permanently diminished, his high wages are gone. After the agriculturist has been eliminated from the land, the Chinese and Japanese serfs, and the riff-raff of all countries, will be placed on the ranch to cultivate it under the peasant-tenantry system, and the now free, independent farmer will be idle in the cities. When you eliminate the agriculturist of the present day, you do not eliminate the production, but in place of the independent farmer who was able to expend \$1,500 a year, made out of the farm, you will have the man who will be expending two or three hundred a year, and the workshops will find a rebound in the decreased demand for their goods and workmen for labor.

A shoe drummer came to my place, and, feeling disappointed that I had not given him an order, said, "I do not understand why you do not place an order with me, for I have a very fine line of goods—the finest in the country." I placed a circular, "Protection to Staple Agriculture," in his hands. He crumpled it up, and said to me. "I don't own a farm, and this matter does not interest me. What good is this thing to me?" I asked him to read it, and after reading it he said, "This opens up a new vision. You do not place an order for fine shoes because you have no demand for them, and you do not have a demand because the farmers have not money enough to buy fine shoes, all because they did not get enough for their crops, or because protection rests upon them entirely?"

"Yes."

"But," said the shoeman, "farmers do not, as a rule, buy my line: the better class, city people, do."

"But when the farmer has no money to spare, the city man, as a rule, will be in the same fix."

Hence, if the net return to the producer of agriculture is diminished, the storekeeper, the traveler, the manufacturer, the workman, each and all, are injured. The first to feel the effect the keenest is the high-priced skilled workman.

This question is as broad as the nation, and broader, because this American nation, I believe, God Almighty intended should be a lamp to light the nations of the earth; and I believe that we have gathered together in our country the wisdom of the whole world, and that we have light to illuminate it. When we go down, the world will go down with us—the world of intelligence, the world of civilization. This question is one of enlightened civilization and true progress.

MR. BAKER: I agree with you and with everybody else who is trying to alleviate the present condition of civilization, or the condition of the workingman, or any class of American citizens; but as a basis, first let us get down to the real question. Please tell me whether or not the agriculturist does not occupy the home market as exclusively as the manufacturer?

MR. LUBIN: No; because he has got to sell abroad.

MR. BAKER: I am not talking about abroad. Has he not just as much of the home market of the United States as has the manufacturer?

MR. LUBIN: No; he has not the home market exclusively, because he has to send out his product.

MR. BAKER: I am not talking about sending out or in. I am talking about the home market.

MR. LUBIN: I would like to answer the question if I can get it in my mind.

MR. BAKER: Here is exactly what I want to know: We are not talking about Europe, Asia, or Africa; but I want to know whether or not the American people are not supplied with agricultural products by the American agriculturist as exclusively as they are supplied manufactures by the American manufacturer?

MR. LUBIN: They are, but at the world's free-trade Liverpool price, less the cost of transportation from the place of production to Liverpool.

MR. BAKER: You have admitted that the home agriculturist has an equal advantage with the home manufacturer?

MR. LUBIN: I beg your pardon. Will you say just what I have admitted?

MR. BAKER: I understood you to say that the agriculturist had the home market as exclusively as the manufacturer had.

MR. LUBIN: You are correct, if you admit the conditions of the Liverpool price.

MR. BAKER: I am not talking about Liverpool; I am talking about what actually exists.

MR. WILLIAMS: You are supposing a case.

MR. BAKER: I am not. I simply wish to know the fact whether or not the agriculturist of the United States supplies the home market as a rule.

MR. LUBIN: He certainly does.

MR. BAKER: Now, when he has supplied the home market, and is looking out to a foreign country, are you not going beyond existing law and asking something which is not given to the manufacturer?



MR. LUBIN: In order that the manufacturer may be protected, and because he is protected, I want to say—and to say it in strong terms—that it is absolutely necessary that the other industry furnishing the commodity for exchange with the nations of the earth for our tea, coffee, medicine, etc., namely, the industry of agricultural staple products which are now sold at the free-trade Liverpool price, should also be protected.

MR. BAKER: Our manufacturers are protected in nothing except the home market.

MR. LUBIN: That is enough.

MR. BAKER: Are you not protected in the home market?

MR. LUBIN: Am I not protected in the home market? Absolutely no.

MR. BAKER: Why not?

MR. LUBIN: Because the law of commerce is this: As soon as you produce a surplus——

MR. BAKER: We are not talking about a surplus, but about home consumption.

MR. LUBIN: Any man who has had experience in a corn exchange will know that Liverpool is the center, because she is the chief buyer of the surplus. The Liverpool price becomes our home price, because we export such a large proportion of agricultural products, which is sold in the open market of the world, and not in a closed market, as our manufactures are sold, and because in the open market there is no distinction in price between the buyer for export or for home use. The manufacturer sells privately, as it were, to 65,000,000 people at protected prices, whereas, he will pay no more for the American agricultural staple products than the Liverpool price, less the cost of transportation from the place of production to Liverpool, no matter where it may be in the United States.

MR. BAKER: You admit, do you not, that Argentine, England, and Egypt have not imported agricultural products into this country to any extent?

MR. LUBIN: That would neither add to nor detract from the question.

MR. BAKER: Is it not a fact?

MR. WILLIAMS: It is all the same whether they import or not.

MR. BAKER: If you have the home market for agricultural products, are you not on the same ground with the manufacturer?

MR. LUBIN: In the way in which you have put that proposition, I know you are certainly sincere. I am aware that all the men of our party who have a similar method of argument have been perfectly sincere in it for many years. But how did it end? It ended in California by introducing this proposition as a plank in the Republican platform, and we elected upon it six out of seven members of Congress to the next House.

MR. SIBLEY: I would like to ask Mr. Lubin a question right on the line of the question of the gentleman from New Hampshire. You stated that your political affiliations were with the same party as Mr. Baker's; but he has made the proposition that you were giving the agriculturist something which the manufacturer does not receive. But does not your party recognize, in its dealings with the sugar question in this country, that a special interest cannot always be embraced under one general law, and, therefore, you took care of the great sugar interest, and paid a bounty to the growers of American sugar? I am sorry that the gentleman from New Hampshire did not hear you illus-

trate the proposition the other day. I am frank to say that I was prejudiced against it, and thought it chimerical; but, after listening to the gentleman on Saturday, I came to the conclusion that his plan was not a detriment to protection.

MR. BAKER: Our party did grant a bounty to sugar, and I will ask you if your party did not denounce it?

MR. SIBLEY: I am not saying whether it is right or wrong, and I am not afraid of anything because it has a bounty attached to it. Anything that gives dignity to American interests suits me; and if the gentleman can convince me that this will be a benefit to the American agriculturist, the term "bounty" will not frighten me. I would like to have the gentleman repeat his remarks of Saturday.

MR. LUBIN: I wish to state, in relation to the word bounty, that the proposition has been misinterpreted in this case. The sugar bounty refers to a bounty on production. That would not be true of this. A bounty on exports would represent the following: It would raise the price of staple agricultural products, not alone on the exports, but all over this land. Once advance our export price, and you need not bother about the home price, because the home price will raise correspondingly. The export price raised, that raises the price at home.

MR. BAKER: I disagree with your conclusions in relation to the tariff on productions.

MR. LUBIN: Would the gentleman object to answering a question for me?

MR. BAKER: Very probably not.

MR. LUBIN: If this inkstand on this table is an imported article and represents the value of \$100, and, say there is \$50 duty on it, is that all the tax that the consumer has to pay?

MR. BAKER: Do you mean whether the \$50 tax is all he has to pay, or whether he must pay something above that and the original cost?

MR. LUBIN: Is the \$50 duty the only thing that the consumer pays, or does he pay more than the \$50 and the original cost of the article? Suppose this represents a case of goods worth \$100, and there is \$50 duty. Here is the custom-house bill for the duty of \$50, and here is the bill for the goods proper. What does the consumer pay? Is the retail price for that article \$150, or more?

MR. BAKER: As a rule it is a little more——

MR. LUBIN: How much more?

MR. BAKER: Because the wholesaler and retailer always charge a percentage on the amount paid out in order to get their profits.

MR. LUBIN: You have answered that first rate. It is not only the profits of the importer, the jobber, and the retailer on the goods proper, but similar profits on the duty will be added, as sure as fate.

MR. BAKER: That does not determine the percentage which is paid by the consumer.

MR. LUBIN: Why not?

MR. BAKER: Simply because that depends on competition among manufacturers, which opens up the whole tariff question; but if you will hire a hall I might argue that with you.

MR. LUBIN: It does cover it absolutely. I am speaking as a merchant.

MR. WILLIAMS: The drift of your argument is this: Assuming it to be fair, and, within proper limits, right, that legislation should be

enacted to protect the manufacturer's capital and the manufacturer's labor by an import duty (which method has been thought best, and has been adopted for that purpose), you think it is also fair and equally honest, right, and constitutional to protect the agriculturist's capital and labor in the same method adopted in the case of the manufacturer; and the only reason why you would not protect both in the same manner is that it is impossible for the American landholder to keep up prices in the home market on American products when the price is necessarily controlled by the price of the world's market.

MR. LUBIN: I could not have stated it in better terms if I had tried a month—with this difference, that it is absolutely necessary for us to have this surplus of staple agricultural products to send abroad.

MR. WILLIAMS: To pay for keeping up the wall.

MR. LUBIN: To pay for keeping up the protective system. We have got to pay the foreigner for our imports with our exports—agricultural staples—because he will not take our millinery, our hats, and such other articles. Mr. Blaine's plan of reciprocity would not bring about that, because the South Americans would not buy our neckties, or shirts, or buckets, when they could procure them for a lesser price.

MR. BAKER: You appear to think that free trade would not be a natural order of business for us. Under free trade would we not have to import more than we do under protection?

MR. LUBIN: We would at the start; but presently the laborer's stomach would be empty, and he would have to go to work for 30 cents a day, for he could not get more. In the manufacturing centers labor would go down to the cheap European labor level.

MR. HAINER: The basis of your argument is that the prices of agricultural products are determined by the price in Liverpool, less the cost of getting the article from the United States to Liverpool?

MR. LUBIN: That is correct, provided you strictly adhere to the term "staple agricultural products."

MR. HAINER: That would include wheat?

MR. LUBIN: Yes, sir.

MR. HAINER: Are you familiar with the prices of wheat at Duluth?

MR. LUBIN: Not to-day.

MR. HAINER: Is it not a fact that the price of wheat, both relatively and absolutely, is higher in Duluth than it is in Liverpool?

MR. WILLIAMS: It may be by bulling and bearing the market.

MR. LUBIN: It is not really higher, because the Liverpool price rules the world.

MR. HAINER: I suggest that the gentleman look that up, because he will find that he is mistaken.

MR. BAKER: The same is true of Chicago.

MR. LUBIN: Does not Liverpool control the price for wheat, cotton, corn, and tobacco?

MR. HAINER: Not necessarily. As a matter of fact, there is but small difference in price between New York and Liverpool, taking a series of years together. It is less than 1 cent, and you could not ship it for that price.

MR. WILLIAMS: Do you refer to spots or futures?

MR. HAINER: I am speaking of the actual cash wheat.

MR. WILLIAMS: You are mistaken.



MR. SIBLEY (to Mr. Hainer). You understand why?

MR. HAINER: Certainly.

MR. BAKER: You have stated that either the bounty must come or the protective wall must be swept away. Will you tell me how the destruction of protection in this country would improve the condition of the agriculturist?

MR. LUBIN: I would rather see the protective system equalized.

MR. BAKER: That is not what you said.

MR. HAINER: Would it benefit us any to wipe out protection?

MR. LUBIN: No, sir.

MR. HAINER: I think there is a good deal of truth in that.

MR. LUBIN: I thank you.

Upon motion of Mr. Baker, the hearing was ordered to be printed. Thereupon the committee adjourned.

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Mr. Lubin submitted the following as additional testimony:

**QUESTIONS ASKED BY MR. D. LUBIN, OF SACRAMENTO, CAL.,  
OF MR. GEORGE F. STONE, SECRETARY OF THE BOARD OF  
TRADE OF THE CITY OF CHICAGO.**

Q. Mr. Stone, I desire to ask you a few questions in your official capacity as Secretary of the Board of Trade of the City of Chicago. What effect would a Government bounty on the exports of wheat have with regard to the general price of wheat throughout the United States? A. It would, in my opinion, increase the price per bushel.

Q. It is said that the speculators would get the 5 cents bounty, or at least the greater part of the bounty? A. If a bounty of 5 cents a bushel should be given by the Government on all wheat exported from this country, in my opinion, the farmer, or producer, would receive the full benefit of that bounty, and not the speculator or exporter. It would simply enable the buyer to pay that much more than he otherwise could pay or would be justified in paying. Competition would force him to pay all he could to the farmer to obtain his wheat. It would be to the interest of the exporter to obtain the wheat. That would be his object. Competition would force him to secure it by every possible means without loss to himself. His great object is to maintain his business, to enlarge his business. Competition would impel him, as it now impels him, to give every cent that he can possibly afford to secure the product which he seeks to export. The fierceness and intensity and volume of competition, by the very force of circumstances, by the very necessities of the case, would drive the 5 cents bounty proposed by the Government into the pockets of the farmer, or producer. There it would land, and from there it could never be wrested by speculators, or by anybody else.

Q. It is also said that the ship-owners would get this 5 cents, or the greater part of it? A. I believe the answer to that is fully embraced in the reply which I have hereinbefore given.

Q. It is also admitted by some that the 5 cents would come in some way to the producer for the quantity that would be exported, but that there would be no advance on the greater quantity remaining for home use? A. It is a mistake, in my opinion, to say that the 5 cents per

bushel bounty, which it is proposed to give, would be confined in its beneficial results to the quantity or volume of grain exported. It would affect the price of the entire crop, for the reason that grain is a surplus crop in this country, and consequently the price per bushel of this grain is fixed and controlled by the export price of this grain, and this export price, of course, I will here say parenthetically, is made in competition with all the other surplus-wheat-producing countries in the world. No domestic buyer will pay one single fraction of a cent more for a single bushel of wheat than the buyer for export will pay. The latter makes the price for the entire crop. If no more were raised than was required for home consumption, the price would depend upon the domestic demand; but the export demand is a continuous demand, inasmuch as the demand for food can never be interrupted for any length of time, and this continuous demand for wheat, so far as a surplus-wheat-producing country is concerned, fixes the price of the entire crop of this cereal of that country. No class of domestic buyers, of course, can be made to pay any more than the price offered by the export demand, the domestic and the export demand being ever present in the market.

MR. LUBIN: This measure of a bounty on the export agricultural staple products is intended to enhance not alone the price to the producer of the quantity exported, but also of the greater quantity at home, and is intended as a recompense, or as a means of arriving at an equilibrium between the outlay by the producer of agricultural staples and the cost to him of protection to manufacturers.

MR. STONE: I think I have covered all the features of your inquiries in the observations hereinbefore submitted. If protection is the public and controlling policy, I don't wonder that the farmer wants the plate passed round to his table once in awhile.

GEORGE F. STONE,

Secretary of the Board of Trade of the City of Chicago.

DECEMBER 20, 1894.

## WHEAT, FLOUR, AND BARLEY REVIEW.

Compiled for the State Board of Agriculture by T. C. FRIEDLANDER, Secretary San Francisco Produce Exchange.

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The wheat crop of California for 1894 is estimated at 750,000 tons, against a yield of 995,000 tons in 1893. The decrease in yield is wholly accounted for by a dry season, and while the acreage seeded was fully up to an average, nearly one third of this area was killed by the drought or cut for hay, so that the acreage actually harvested was comparatively small, say 2,300,000 acres.

The yield per acre was about 11 bushels, against an average of 13 bushels per acre. The same causes that brought about the decline in values in 1893 continued to depress the market during the past twelve months, and it was a case of a price the lowest on record being succeeded by another lowest on record, until in September No. 1 white wheat was quoted at 77½ cents per cental at tide-water. At this time the English market had declined to 22s 6d per quarter. The market then called a halt, and with an advance of 3s per quarter in England, prices in this market stiffened up, and for a short time in November ruled at 97½ cents per cental. Notwithstanding a marked decrease in her stocks, England failed to hold her advance, and at this writing cargoes are quoted at 24s 9d. Locally prices weakened, owing to heavy stocks and grain coming upon the market, and to-day (the 17th of January) No. 1 white wheat sells at 87½ cents per cental. Freights to England have at all times ruled from 25s to 27s 6d per ton by iron vessels to Cork for orders.

In the review for 1893, attention was called to the speculation in wheat which had forced prices above an export value, and which resulted in the retention of unnecessarily large stocks in this State. The same factor continued in force more or less throughout this past year, and again we have to note an accumulation of wheat in our warehouses much beyond our needs, and which again is a menace to any improvement in prices.

Once more this damaging speculation not only allowed ships to leave our port in ballast to load at Portland and Tacoma, but it also attracted a large amount of wheat and flour from the same points, to act as an additional depressing factor upon our already overloaded market. At this time in 1893 I wrote: "The farmers selling to-day are reaping the benefit of prices enhanced beyond their value, but the coming crop will suffer to more than a corresponding degree." What was written then is still true to-day. The retention of heavy stocks has a constantly depressing influence on our market, and its effects are sure to be felt for the next twelve months.

Wheat throughout the world is low, lower to-day than it was twelve months ago, and yet the importing countries are apparently enabled to attract more than sufficient for their needs. Without an advance



abroad, the exporting countries can look for no permanent improvement in values. The reaction towards any higher prices must be slow.

The English markets rose from 22s 6d to 25s 6d, and are now 24s 9d, at which figure wheat continues to be drawn, more especially from Russia, and in the next few weeks heavy shipments can be looked for from Argentine. In 1893 the shipments from the Rio Plata during February and April broke the foreign markets, and their effect in the next few months will be watched with the greatest interest. Should the English markets hold their own, then may we expect that the worst is over, and look for a general hardening in values—not to the figures of five years ago, for wheat prices are undoubtedly to remain on a lower level, but at least to figures that will bring some remuneration to our farmers for their outlay and their labor.

## COMPARATIVE STATEMENT, STOCKS OF GRAIN IN CALIFORNIA.

	Flour— Bbls.	Wheat— Ctls.	Barley— Ctls.	Oats— Ctls.	Beans— Sacks.	Corn— Ctls.	Rye— Ctls.
1894—December 1st ...	73,950	13,040,330	1,965,230	213,590	198,180	-----	63,985
June 1st .....	80,310	7,646,090	1,370,305	106,915	124,300	94,390	6,585
1893—December 1st ...	99,031	14,234,419	3,907,011	253,508	-----	-----	22,967
June 1st .....	83,327	4,485,923	1,309,102	57,240	-----	-----	9,725
1892—December 1st ...	92,024	12,153,772	3,797,654	263,243	-----	-----	57,988
June 1st .....	120,517	2,100,149	913,049	48,786	128,182	92,837	5,831
1891—December 1st ...	140,043	9,964,575	2,883,602	168,404	275,126	263,255	39,545
June 1st .....	121,166	1,626,562	352,882	45,074	46,682	76,738	14,136
1890—December 1st ...	118,123	12,168,993	1,615,655	61,085	174,291	302,921	37,150
June 1st .....	81,090	4,801,063	1,004,457	61,235	39,503	91,111	15,892
1889—December 1st ...	116,225	15,300,368	3,321,860	120,356	107,419	134,915	66,540
June 1st .....	100,565	2,092,430	2,052,630	119,245	60,415	38,925	10,215
1888—December 1st ...	95,906	10,819,630	4,087,050	120,175	235,320	266,747	7,040
July 1st .....	71,920	3,881,960	2,063,450	62,095	53,675	82,200	800
January 1st .....	59,979	9,730,060	4,522,990	65,380	109,925	121,300	4,350
1887—July 1st .....	50,275	2,790,400	798,500	42,400	74,405	72,330	1,350
January 1st .....	89,605	7,812,850	2,590,250	47,400	243,550	136,650	44,650
1886—July 1st .....	102,305	1,252,600	114,850	31,150	103,700	27,625	1,080
1885—October 10th ...	107,180	13,768,539	1,620,500	-----	-----	-----	-----
July 1st .....	70,800	5,382,900	608,150	107,440	81,280	72,100	32,875
January 1st .....	187,830	15,852,210	1,933,250	304,710	168,110	146,430	61,300
1884—July 1st .....	112,600	664,050	640,350	58,450	44,175	16,110	30,100
January 1st .....	177,280	6,735,720	2,434,150	149,330	53,050	91,220	58,910
1883—July 1st .....	77,000	979,500	820,500	10,300	56,060	57,420	8,125
January 1st .....	158,893	8,381,879	1,941,466	118,650	94,830	90,865	23,665
1882—July 1st .....	119,324	2,822,903	162,416	21,305	48,708	61,597	3,021
January 1st .....	123,151	15,191,020	823,322	85,143	95,843	157,716	32,059
1881—July 1st .....	135,592	12,444,278	595,028	15,744	70,780	94,210	3,820
January 1st .....	78,253	19,805,466	1,651,787	95,220	113,708	228,037	17,742
1880—July 1st .....	30,934	323,821	908,294	18,357	52,217	88,572	5,989
January 1st .....	83,638	4,096,895	2,013,930	112,351	48,904	129,715	38,712
1879—July 1st .....	37,786	593,251	806,565	26,484	-----	148,002	22,237
January 1st .....	75,130	5,781,168	2,207,142	137,042	-----	233,534	64,384
1878—July 1st .....	20,231	284,424	147,598	29,564	-----	11,066	280
January 1st .....	57,187	2,646,811	882,046	104,998	-----	110,434	3,901

RECEIPTS OF PRODUCE AT SAN FRANCISCO FROM ALL SOURCES, 1894.

Month.	Flour— 1/4 Barrels.	Wheat— Centals.	Barley— Centals.	Oats— Centals.	Beans— Sacks.	Corn— Centals.	Rye— Centals.	Potatoes— Centals.	Hay— Tons.	Hops— Bales.	Must'd— Sacks.	Flax— Sacks.	Wool— Bales.
January	343,280	881,343	140,132	19,893	60,714	39,131	1,461	127,687	8,012	7	4,345	793	1,436
February	329,313	547,883	213,913	60,471	27,855	26,815	4,263	91,363	9,646	---	1,796	811	673
March	361,147	879,400	158,351	33,823	24,862	28,773	3,550	104,770	9,494	87	579	---	6,430
April	372,694	768,577	89,667	33,021	30,631	47,349	3,636	64,123	9,629	283	808	44	27,029
May	383,612	268,460	114,447	52,395	25,724	42,584	3,474	88,186	8,790	255	601	---	15,678
June	236,516	177,313	72,159	39,778	13,494	23,033	3,018	82,764	11,660	204	2,434	---	9,080
July	321,440	326,951	124,126	27,556	16,154	21,729	2,659	106,742	13,707	52	812	---	2,875
August	416,424	628,473	370,255	41,979	20,977	10,090	2,501	106,292	22,963	140	5,115	385	7,502
September	319,219	1,113,944	271,198	67,126	39,278	6,555	2,613	88,488	17,758	2,323	9,254	3,943	10,058
October	432,862	1,106,205	239,132	126,639	104,287	23,708	5,529	132,654	14,623	5,152	13,112	12,957	14,240
November	505,468	1,149,173	123,574	106,419	120,353	28,903	5,088	86,849	10,089	2,346	8,662	10,438	6,131
December	489,222	858,520	159,966	86,052	25,361	25,362	4,779	88,561	6,556	208	6,693	7,815	1,012
Totals, 1894	4,511,217	8,766,242	2,076,920	687,152	509,720	324,032	42,601	1,168,479	142,927	11,057	54,211	37,186	102,144
Totals, 1893	4,481,950	12,687,224	4,237,893	606,584	515,226	330,149	73,600	1,313,270	127,653	10,229	59,648	11,497	89,672
Totals, 1892	5,332,405	10,435,610	2,746,878	593,398	648,909	262,042	72,999	1,259,151	123,810	7,650	28,307	51,894	96,330
Totals, 1891	5,862,388	18,183,133	2,710,538	595,782	402,076	369,904	139,336	1,274,607	126,540	9,413	24,851	69,011	86,352
Totals, 1890	5,597,700	14,203,226	1,851,346	532,332	420,595	367,690	146,967	1,355,418	132,042	10,154	23,412	56,155	101,490
Totals, 1889	5,597,109	13,246,621	2,255,560	586,484	398,135	213,712	151,273	1,351,897	124,264	14,149	27,941	72,203	109,746
Totals, 1888	4,354,420	12,917,228	2,792,631	609,529	269,057	221,098	28,543	1,239,430	127,701	17,952	26,108	95,905	105,338
Totals, 1887	3,600,345	9,602,631	2,055,366	414,812	423,530	281,600	32,277	961,200	117,360	---	37,734	58,193	110,769
Totals, 1886	4,885,072	16,527,503	2,184,560	508,717	361,320	218,100	26,275	1,079,593	99,442	---	43,828	88,704	114,098
Totals, 1885	5,340,092	13,053,092	1,244,811	717,013	367,233	157,309	62,335	1,192,461	79,509	---	11,856	81,444	118,237

## CLEARANCES FROM SAN FRANCISCO BY SEA, 1894.

Month.	Flour— Barrels.	Wheat— Centals.	Barley— Centals.	Oats— Centals.	Corn— Centals.	Rye— Centals.
January .....	58,673	779,734	57,423	2,999	19,485	-----
February .....	68,115	423,874	143,672	2,408	24,136	-----
March .....	56,463	670,162	163,678	1,426	11,790	-----
April .....	71,127	632,792	152,419	300	33,952	-----
May .....	54,294	215,405	9,707	2,203	20,359	-----
June .....	42,776	47,885	15,658	796	29,311	-----
July .....	64,383	54,690	16,039	2,419	7,487	-----
August .....	80,350	573,881	169,641	1,024	5,222	-----
September .....	64,514	647,560	143,652	2,040	5,024	-----
October .....	70,970	1,345,887	132,689	2,267	8,791	-----
November .....	73,043	984,336	40,167	2,696	6,399	-----
December .....	82,724	767,811	13,427	852	6,364	12
Totals, 1894 .....	787,432	7,144,017	1,058,172	21,430	178,320	12
Totals, 1893 .....	872,506	10,880,219	2,817,151	19,856	95,867	33,739
Totals, 1892 .....	1,077,956	9,726,697	1,323,495	21,982	70,648	32,420
Totals, 1891 .....	1,225,183	16,823,743	929,216	12,392	123,998	93,615
Totals, 1890 .....	1,182,111	13,019,910	318,313	28,447	78,337	96,012
Totals, 1889 .....	1,109,126	12,257,046	830,331	59,323	26,486	-----
Totals, 1888 .....	808,439	11,708,261	1,029,361	35,985	51,041	-----
Totals, 1887 .....	788,180	9,140,689	416,583	-----	-----	-----
Totals, 1886 .....	1,104,395	15,874,268	760,606	-----	-----	-----

## IMPORTS INTO CALIFORNIA BY SEA, 1894—FROM OREGON AND WASHINGTON.

Month.	Flour— ¼ Barrels.	Wheat— Centals.	Barley— Centals.	Oats— Centals.	Flax— Sacks.	Potatoes— Sacks.	Wool— Bales.
January .....	59,071	82,273	-----	9,036	786	4,547	625
February .....	25,675	70,849	8,242	44,763	811	21,195	120
March .....	74,020	145,528	275	31,566	-----	34,457	-----
April .....	69,070	70,717	11,940	20,373	-----	29,714	163
May .....	125,331	119,190	50,727	38,767	-----	13,183	1,453
June .....	34,752	98,816	31,538	32,392	-----	746	2,566
July .....	37,796	53,527	4,640	20,912	-----	-----	604
August .....	76,463	99,986	10,295	16,219	385	-----	2,335
September .....	86,482	259,721	16,658	33,166	3,943	185	1,161
October .....	69,601	154,397	37,533	81,327	10,915	5,554	1,038
November .....	102,680	247,814	59,432	79,147	10,048	12,129	691
December .....	179,946	290,074	117,082	76,271	7,735	14,013	159
Totals .....	940,887	1,692,892	348,362	483,939	34,623	135,723	10,915



## WHEAT QUOTATIONS FOR A SERIES OF YEARS.

The average, highest, and lowest price of No. 1 white wheat, spot, each year since 1864-65, has been as follows:

Year.	Average.	Highest.	Lowest.
1893-94	\$1 01 $\frac{1}{4}$	\$1 16 $\frac{1}{4}$	\$0 90
1892-93	1 27 $\frac{3}{8}$	1 37 $\frac{1}{2}$	1 17 $\frac{1}{2}$
1891-92	1 63 $\frac{3}{8}$	1 90	1 38 $\frac{3}{4}$
1890-91	1 46 $\frac{1}{4}$	1 85	1 27 $\frac{1}{2}$
1889-90	1 28 $\frac{3}{8}$	1 38 $\frac{3}{4}$	1 25
1888-89	1 34 $\frac{1}{3}$	1 65	1 26 $\frac{1}{4}$
1887-88	1 40 $\frac{1}{4}$	2 00	1 22 $\frac{1}{2}$
1886-87	1 52 $\frac{1}{3}$	1 87 $\frac{1}{2}$	1 20
1885-86	1 43 $\frac{1}{2}$	1 52 $\frac{1}{2}$	1 17 $\frac{1}{2}$
1884-85	1 31 $\frac{1}{8}$	1 50	1 15
1883-84	1 64 $\frac{3}{8}$	1 90	1 42 $\frac{1}{2}$
1882-83	1 73 $\frac{1}{2}$	2 05	1 60
1881-82	1 60	1 75	1 30
1880-81	1 42 $\frac{7}{8}$	1 62 $\frac{1}{2}$	1 25
1879-80	1 82	2 15	1 45
1878-79	1 67 $\frac{3}{4}$	1 77 $\frac{1}{2}$	1 57 $\frac{1}{2}$
1877-78	2 18	2 45	1 82 $\frac{1}{2}$
1876-77	1 92 $\frac{1}{4}$	3 00	1 45
1875-76	1 93 $\frac{1}{2}$	2 32 $\frac{1}{2}$	1 67 $\frac{1}{2}$
1874-75	1 62	1 85	1 52 $\frac{1}{2}$
1873-74	2 05 $\frac{1}{4}$	2 35	1 70
1872-73	1 76 $\frac{1}{4}$	2 05	1 50
1871-72	2 34	2 82 $\frac{1}{2}$	1 87 $\frac{1}{2}$
1870-71	2 20 $\frac{1}{2}$	3 10	1 65
1869-70	1 69	1 82 $\frac{1}{2}$	1 55
1868-69	1 87	2 12 $\frac{1}{2}$	1 55
1867-68	2 36	3 05	1 67 $\frac{1}{2}$
1866-67	1 73	2 15	1 35
1865-66	2 11	4 75	1 62 $\frac{1}{2}$
1864-65	4 05	5 00	2 25

## STATISTICS CROP YEAR 1893-94.

Exports from California, twelve months ending May 31, 1893-94:	Wheat—Tons.
Flour, 820,224 bbls.	118,932
Wheat, 9,504,898 ctls.	475,245
Total exports	594,177
Local consumption, twelve months.	200,000
Seed and feed.	125,000
Stock in State 1st June, 1894.	393,949
Total	1,313,126
Deduct—	Wheat—Tons.
Flour from Oregon and Washington, 709,665 qrs., equals	25,725
Wheat from Oregon and Washington	55,790
Total imports	81,515
Stock carried over 1st June, 1893	236,379
	517,894
Crop of 1893.	995,232

N. B.—A barrel of flour figured as an equivalent of 290 pounds of wheat.

## ARRIVALS OF NEW WHEAT.

The date of arrival of new wheat at tide water each year since that cereal was first produced in quantity, and market prices of No. 1 wheat at such time, are given below:

Year.	Month.	Price.
1894.....	June 10.....	\$0 95 @ ----
1893.....	June 2.....	1 26¼ @ ----
1892.....	May 23.....	1 47½ @ ----
1891.....	May 24.....	1 75 @ ----
1890.....	May 20.....	1 30 @ ----
1889.....	May 24.....	1 40 @ ----
1888.....	June 15.....	1 31¼ @ ----
1887.....	June 11.....	1 86 @ ----
1886.....	June 5.....	1 25 @ ----
1885.....	June 3.....	1 42½ @ ----
1884.....	June 30.....	1 45 @ ----
1883.....	June 19.....	1 65 @ ----
1882.....	June 6.....	1 67 @ ----
1881.....	June 7.....	1 30 @ ----
1880.....	June 24.....	1 55 @ ----
1879.....	June 20.....	1 65 @ ----
1878.....	June 13.....	1 70 @ ----
1877.....	June 2.....	2 40 @ ----
1876.....	June 9.....	1 75 @ ----
1875.....	June 2.....	1 65 @ 1 67
1874.....	June 11.....	1 65 @ 1 67
1873.....	June 7.....	1 75 @ 1 80
1872.....	June 10.....	1 80 @ 1 85
1871.....	June 23.....	2 30 @ 2 37
1870.....	June 9.....	1 70 @ 1 80
1869.....	June 15.....	1 40 @ 1 45
1868.....	June 18.....	1 90 @ 2 00
1867.....	June 17.....	1 65 @ 1 70
1866.....	June 25.....	1 50 @ 1 60
1865.....	June 12.....	2 20 @ 2 25
1864.....	July 9.....	2 80 @ 2 95
1863.....	July 25.....	1 50 @ 1 60
1862.....	July 11.....	1 62 @ 1 65
1861.....	July 24.....	1 50 @ 1 65
1860.....	July 3.....	1 50 @ 1 55
1859.....	July 14.....	1 90 @ 2 00

## RAINFALL AND WHEAT.

The following table shows the rainfall at San Francisco for a series of years, and the crop of wheat raised:

Season.	Inches.	Crop.	Cents.
1877-78.....	31.12	1878.....	22,825,000
1878-79.....	24.56	1879.....	19,801,000
1879-80.....	26.38	1880.....	34,150,000
1880-81.....	29.86	1881.....	20,600,000
1881-82.....	16.14	1882.....	21,000,000
1882-83.....	20.12	1883.....	20,100,000
1883-84.....	32.28	1884.....	28,830,000
1884-85.....	18.10	1885.....	15,177,980
1885-86.....	33.05	1886.....	21,394,380
1886-87.....	19.04	1887.....	17,315,380
1887-88.....	16.74	1888.....	18,643,080
1888-89.....	22.06	1889.....	25,174,940
1889-90.....	45.84	1890.....	18,889,680
1890-91.....	18.53	1891.....	21,095,440
1891-92.....	21.75	1892.....	20,445,960
1892-93.....	15.09	1893.....	19,904,640

## AVERAGE PRICE OF NO. 1 FEED BARLEY.

1893-94	\$0 79 $\frac{1}{2}$	1884-85	\$0 97 $\frac{1}{10}$
1892-93	85 $\frac{1}{2}$	1883-84	94 $\frac{1}{2}$
1891-92	1 05 $\frac{1}{2}$	1882-83	1 25 $\frac{1}{2}$
1890-91	1 39 $\frac{1}{2}$	1881-82	1 33
1889-90	81 $\frac{1}{2}$	1880-81	1 44
1888-89	75 $\frac{1}{2}$	1879-80	89 $\frac{1}{2}$
1887-88	79 $\frac{1}{2}$	1878-79	74
1886-87	1 00 $\frac{1}{2}$	1877-78	88
1885-86	1 28	1876-77	1 44 $\frac{1}{2}$

## ARRIVALS OF NEW BARLEY.

The first receipts of new barley for a series of years past, and the price of No. 1 feed barley at such date, are annexed:

Year.	Month.	Price.
1894	June 1	\$0 92 $\frac{1}{2}$
1893	June 3	85 $\frac{1}{2}$
1892	June 6	1 05
1891	June 6	1 42 $\frac{1}{2}$
1890	May 31	1 06 $\frac{1}{2}$
1889	June 1	75
1888	June 5	92 $\frac{1}{2}$
1887	June 4	1 15
1886	May 27	1 10
1885	June 16	1 25
1884	July 9	90
1883	June 25	95
1882	June 12	1 65
1881	June 21	90
1880	June 24	68 $\frac{1}{2}$
1879	June 30	75
1878	June 11	80
1877	June 30	1 55
1876	May 30	90
1875	June 20	1 35
1874	June 9	1 45
1873	June 5	1 10
1872	June 6	1 40
1871	June 12	1 57 $\frac{1}{2}$
1870	June 19	1 20

## BARLEY SHIPMENTS, IN CENTALS, 1894.

Month.	From San Francisco.		From San Diego.	From California.
	Foreign— By Sea.	Domestic— By Sea.	Foreign— By Sea.	Domestic— By Rail.
January	57,423		77,026	3,340
February	138,279	5,393		240
March	163,678			5,160
April	152,419			11,400
May	9,707			240
June	15,658			
July	10,893	5,146		
August	144,209	25,432		
September	143,652			300
October	121,127	11,562		
November	40,167			
December	13,427			
Totals	1,010,639	47,533	77,026	20,380



Total shipments, 1894 .....	1,155,578
Total shipments, 1893 .....	2,940,151
Total shipments, 1892 .....	1,372,281
Total shipments, 1891 .....	934,916
Total shipments, 1890 .....	331,267

## SHIPMENTS OF BEANS, IN CENTALS, 1894.

Month.	From San Francisco.		From California.
	Foreign— By Sea.	To Atlantic— By Sea.	By Rail.
January .....	3,202	11,900	24,640
February .....	3,565	40,960	27,000
March .....	1,970	3,120	29,180
April .....	2,505	11,160	11,720
May .....	2,682	-----	8,660
June .....	1,168	-----	9,180
July .....	16,200	4,840	6,840
August .....	25,620	7,820	14,400
September .....	23,040	1,620	25,340
October .....	36,640	480	23,960
November .....	46,520	280	20,240
December .....	45,380	320	6,540
Totals .....	208,492	82,500	207,700

DESTINATION AND VALUE OF EXPORTS FROM CALIFORNIA, JULY 1, 1893,  
TO JUNE 30, 1894.*Wheat.*

Destination.	Centals.	Value.
United Kingdom, direct .....	2,739,758	\$2,901,392
Continent .....	179,073	189,129
Ports of call to United Kingdom and Continent .....	6,243,545	6,566,371
Various .....	21,711	24,049
Totals .....	9,184,087	\$9,680,941

*Flour.*

Destination.	Barrels.	Value.
China .....	400,693	\$1,265,070
Central America .....	199,615	707,157
East Indies .....	8,500	29,925
Hawaiian and Pacific Islands .....	66,909	236,608
Japan .....	33,617	113,006
Mexico .....	6,911	27,205
Siberia .....	19,988	57,241
South America .....	19,833	69,940
United Kingdom .....	38,294	117,407
Miscellaneous .....	2,514	8,244
Totals .....	796,874	\$2,631,803

## NATIONALITY OF TONNAGE.

The following table shows the nationality of the grain vessels sailing each month the past year:

Month.	American.	British.	Miscellaneous.	Total.
1893—July .....	3	11	1	15
August .....	4	25	2	31
September .....	7	22	2	31
October .....	3	17	2	22
November .....	2	15	2	19
December .....	4	8	4	16
1894—January .....	1	11	1	13
February .....	0	6	3	9
March .....	1	8	6	15
April .....	1	10	2	13
May .....	0	4	0	4
June .....	0	1	0	1
Totals .....	26	138	25	189

## AMERICAN VS. FOREIGN SHIPS.

The proportion of American to foreign ships engaged in the grain trade of this port, each year for the past twenty years, is shown in the annexed table:

Year.	American.	Foreign.	Total.
1893-94 .....	26	163	189
1892-93 .....	29	201	230
1891-92 .....	39	234	273
1890-91 .....	52	213	265
1889-90 .....	55	229	284
1888-89 .....	60	229	289
1887-88 .....	33	165	198
1886-87 .....	55	227	282
1885-86 .....	88	161	249
1884-85 .....	116	255	371
1883-84 .....	81	210	291
1882-83 .....	169	202	371
1881-82 .....	154	405	559
1880-81 .....	132	224	356
1879-80 .....	113	160	273
1878-79 .....	83	186	269
1877-78 .....	50	59	109
1876-77 .....	94	213	307
1875-76 .....	82	92	174
1874-75 .....	62	203	265
1873-74 .....	91	156	247
1872-73 .....	136	203	339

## AVERAGE SHIPPING RATES FOR SEASON.

Year.	Wood.			Iron.		
	£	s.	d.	£	s.	d.
1893-94.....	1	5	3	1	7	7
1892-93.....	0	19	6	1	2	8
1891-92.....	1	11	11	1	11	1
1890-91.....	1	18	10	2	1	11
1889-90.....	1	13	5	1	17	3
1888-89.....	1	8	3	1	12	7
1887-88.....	1	5	6	1	6	2
1886-87.....	1	6	1	1	8	2
1885-86.....	1	9	3	1	12	6
1884-85.....	1	14	2	1	18	0
1883-84.....	1	5	8	1	14	8
1882-83.....	2	3	6	2	6	9
1881-82.....	3	5	7	3	7	3
1880-81.....	3	6	9	3	13	0

Prior to 1880, rates for iron and wooden ships were not separated, but the following rates are quoted for a series of years, the highest rate being £5 13s, for the wooden ship Agenor to Liverpool direct:

Year.	Average.			Highest.			Lowest.		
	£	s.	d.	£	s.	d.	£	s.	d.
1879-80.....	2	15	0	3	10	0	1	19	0
1878-79.....	2	10	0	3	0	0	1	10	0
1877-78.....	2	0	0	2	10	0	1	12	6
1876-77.....	3	0	0	3	12	0	1	17	6
1875-76.....	2	10	0	3	2	6	2	0	0
1874-75.....	3	10	0	4	11	6	2	0	0
1873-74.....	4	2	6	5	5	0	3	10	0
1872-73.....	4	5	0	5	13	0	3	0	0

## NUMBER OF WHEAT VESSELS DISPATCHED.

Month.	No.	Month.	No.
1893—July.....	15	1894—January.....	13
August.....	31	February.....	9
September.....	31	March.....	15
October.....	22	April.....	13
November.....	19	May.....	4
December.....	16	June.....	1
Total, 1893-94.....			189
Total, 1892-93.....			230
Total, 1891-92.....			273
Total, 1890-91.....			265
Total, 1889-90.....			284
Total, 1888-89.....			289
Total, 1887-88.....			198
Total, 1886-87.....			282
Total, 1885-86.....			249
Total, 1884-85.....			371
Total, 1883-84.....			291
Total, 1882-83.....			371
Total, 1881-82.....			559
Total, 1880-81.....			356



## STATISTICAL TABLES.

## ACREAGE AND YIELD OF WHEAT AND BARLEY IN 1894.

County.	Wheat.		Barley.	
	Acres.	Bushels.	Acres.	Bushels.
Alameda .....	15,000	216,000	34,107	682,140
Alpine .....	500	1,050	190	2,100
Amador .....	2,000	60,000	9,000	270,000
Butte .....	186,707	2,240,484	14,736	442,080
Calaveras .....	3,500	35,000	5,200	15,600
Colusa .....	390,985	3,909,850	60,942	914,130
Contra Costa .....	34,500	522,500	26,750	1,070,000
Del Norte .....	49	500	547	38,290
El Dorado .....	2,000	30,000	1,800	36,000
Fresno .....	100,000	400,000	42,478	679,648
Glenn .....	145,000	2,000,000	25,000	375,000
Humboldt .....	2,064	51,600	1,565	93,900
Inyo .....	2,267	24,000	290	1,160
Kern .....	59,000	215,000	7,500	30,000
Kings .....	50,000	300,000	4,000	40,000
Lake .....	5,100	61,200	3,000	138,000
Lassen .....	7,317	44,768	1,424	28,000
Los Angeles .....	79,500	318,000	66,500	798,000
Madera .....	60,000	240,000		
Marin .....	1,500	27,000	500	12,500
Mariposa .....	1,500	17,000	4,500	45,000
Mendocino .....	8,513	170,260	8,010	160,200
Merced .....	180,500	902,500	54,792	1,095,840
Modoc .....	1,020	18,200	1,472	26,496
Mono .....	143	1,430	173	3,114
Monterey .....	67,500	540,000	38,870	1,166,100
Napa .....	19,456	389,120	9,790	254,540
Nevada .....	81	810		
Orange .....	55	825	50,000	475,000
Placer .....	25,964	309,640	4,945	98,900
Plumas .....	1,024	10,240	401	8,020
Sacramento .....	60,000	640,000	44,010	484,110
San Benito .....	8,000	96,000	6,000	105,000
San Bernardino .....	2,444	29,328	11,625	290,625
San Diego .....	9,032	9,032	9,400	12,763
San Joaquin .....	203,340	2,684,080	78,540	1,992,000
San Luis Obispo .....	45,370	362,960	97,200	1,458,000
San Mateo .....	4,900	122,500	1,573	47,190
Santa Barbara .....	1,125	18,000	39,500	2,449,000
Santa Clara .....	14,700	367,500	15,230	380,750
Santa Cruz .....	6,660	23,310	1,557	46,710
Shasta .....	7,361	73,610	2,435	53,570
Sierra .....	795	7,950	2,377	47,540
Siskiyou .....	7,000	80,000	500	10,000
Solano .....	85,390	1,280,650	32,650	1,000,000
Sonoma .....	8,500	170,000	7,500	225,000
Stanislaus .....	176,306	1,410,448	30,000	450,000
Sutter .....	34,950	559,200	11,270	202,860
Tehama .....	37,657	376,570	11,636	174,540
Trinity .....	1,000	12,000	25	500
Tulare .....	166,000	913,000	12,910	133,280
Tuolumne .....	2,823	28,230	1,178	21,204
Ventura .....	4,320	43,200	26,216	1,048,640
Yolo .....	229,650	3,444,750	55,000	1,100,000
Yuba .....	17,500	262,125	5,635	101,430
Totals .....	2,587,568	26,071,510	972,449	20,834,470

## ACREAGE AND YIELD OF OATS, CORN, AND HAY, IN 1894.

County.	Oats.		Corn.		Hay.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Tons.
Alameda	351	8,775	400	12,000		
Alpine	200	4,000	105	2,000	1,055	2,100
Amador	200	8,000	700	24,500	12,000	18,000
Butte	223	6,244	368	12,847		
Calaveras	500	1,000	200	10,000	10,000	30,000
Colusa	134	2,680	310	7,750	2,630	2,630
Contra Costa	16,500	66,000	2,500	125,000	59,600	89,400
Del Norte	2,701	189,070			1,000	3,000
El Dorado	1,200	24,000			6,000	6,000
Fresno	257	6,425	50	3,000		
Glenn	5,500	11,000			16,658	16,658
Humboldt	20,655	1,549,000			27,260	27,260
Inyo	616	2,464	2,130	64,000	7,890	27,600
Kern	800	4,800	10,000	250,000	76,000	122,000
Kings			6,000	100,000	8,500	12,750
Lake	750	30,000	600	21,000	8,500	34,000
Lassen	1,000	20,000	20	700		
Los Angeles	425	8,100	14,400	288,000	75,000	75,000
Marin	2,000	80,000	100	2,500	3,000	3,750
Mariposa	100	2,000	200	2,000	10,500	5,230
Mendocino	2,510	50,200	1,200	30,000	12,850	32,125
Merced	140	3,920	1,680	10,080	3,780	6,000
Modoc	690	17,275				
Mono	36	540				
Monterey	4,000	160,000				
Napa	8,500	255,000	2,000	80,000	5,600	11,200
Nevada	68	1,088				
Orange			6,000	300,000	15,000	10,000
Placer	2,524	50,540				
Plumas	2,214	61,000				
Sacramento	1,000	40,000	7,500	262,500	70,000	105,000
San Benito	400	6,000	50	1,750	20,000	22,000
San Bernardino	1,000	20,000	625	20,000		
San Diego	8,317	1,656	1,315	1,482	12,448	1,383
San Joaquin	250	6,250	350	12,500	4,000	24,000
San Luis Obispo	3,320	66,400	313	9,390	41,300	60,000
San Mateo	100	3,000	192	11,520	10,716	16,074
Santa Barbara			709	11,600	16,350	57,050
Santa Clara	145	4,350	374	22,440	32,150	48,225
Santa Cruz	8,000	160,000	1,512	15,120	5,000	15,000
Shasta	550	13,000	157	4,400		
Sierra	1,790	35,800				
Siskiyou	1,500	37,500	250	5,000	10,000	25,000
Solano	154	3,080	250	7,000	4,285	6,427
Sonoma	4,500	180,000	7,000	175,000	14,000	17,500
Stanislaus	250	5,000	300	9,000	7,000	19,000
Sutter	8,100	97,200	690	10,350	16,490	32,980
Tehama	1,353	23,000	250	5,000	7,938	5,954
Trinity	25	750	120	2,400	500	1,500
Tulare			14,046	309,012	9,160	13,740
Tuolumne	50	800				
Ventura	81	2,000	10,000	300,000		
Yolo	500	7,500	2,700	67,500	25,000	37,500
Yuba	4,050	48,600	345	5,175	8,245	16,490
Totals	120,229	3,384,007	98,011	2,613,516	677,399	1,049,526

## WINE EXPORTS, 1894.

## By Sea.

To—	Cases.	Gallons.	Value.
New York .....	493	2,056,743	\$825,682
Central America .....	8,967	102,708	95,757
Mexico .....	1,179	105,572	46,534
Hawaii .....	860	125,476	66,325
British Columbia .....	251	14,726	7,107
China and Japan .....	459	31,997	14,295
Germany .....	130	23,851	9,004
Other European .....	-----	5,720	1,379
Tahiti .....	-----	65,043	19,995
Other foreign .....	256	15,776	7,982
Totals .....	12,595	2,547,612	\$1,094,060

## By Rail.

Month.	Cases.	Gallons.	Value.
January .....	2,556	630,458	-----
February .....	3,293	696,847	-----
March .....	2,749	1,080,790	-----
April .....	3,381	1,247,561	-----
May .....	3,394	1,182,521	-----
June .....	4,462	810,817	-----
July .....	1,237	540,308	-----
August .....	3,018	927,247	-----
September .....	3,781	1,255,312	-----
October .....	2,111	1,198,704	-----
November .....	2,415	1,016,310	-----
December .....	1,915	867,808	-----
Totals .....	34,312	11,454,683	\$4,719,121

## GRAND TOTAL OF ALL SHIPMENTS OF WINE.

	Cases.	Gallons.	Value.
By sea .....	12,595	2,547,612	\$1,094,060
By rail, overland .....	34,312	11,454,683	4,719,121
Grand total .....	46,907	14,002,295	\$5,813,181

## ACREAGE AND YIELD FOR 1894.

Total acreage in wine grapes in California ..... 90,000 acres.  
 Total yield of wine in 1894 in California ..... 14,000,000 gallons.



## EXPORTS OF BRANDY, 1894.

## BY SEA.

To—	Cases.	Gallons.	Value.
Eastern, domestic .....	2	56,538	\$102,044
Germany .....	14	294,408	222,175
Great Britain .....		1,495	1,345
All other foreign .....	497	6,333	12,759
Totals .....	513	358,774	\$338,323

## BY RAIL.

Month.	Cases.	Gallons.	Value.
January .....	112	37,987	-----
February .....	108	35,918	-----
March .....	236	50,985	-----
April .....	91	53,650	-----
May .....	104	24,873	-----
June .....	80	32,686	-----
July .....	46	8,729	-----
August .....	64	40,135	-----
September .....	137	38,786	-----
October .....	102	37,186	-----
November .....	94	37,093	-----
December .....	106	44,775	-----
Totals .....	1,280	442,803	\$677,005

## GRAND TOTAL BRANDY EXPORTS.

	Cases.	Gallons.	Value.
By sea .....	513	358,774	\$338,323
By rail, overland .....	1,280	442,803	677,005
Grand totals .....	1,793	801,577	\$1,015,328

## HOPS.

## HOP CROP FOR THE YEAR 1894.

	Acres.	Bales.
California.....	8,500	76,800
Oregon.....	15,000	62,600
Washington.....	10,000	49,000
British Columbia.....	500	2,000
Totals.....	34,000	190,400

## DISTRIBUTION OF STOCK FROM JUNE 30, 1894, TO JUNE 1, 1895.

	Bales.	
<i>California.</i>		
Stock from 1893 on hand June 30, 1894.....	2,500	
Received from Oregon and Washington.....	400	
Returned from New York.....	400	
Crop of 1894.....	76,800	
		80,100
Shipped overland by rail.....	64,200	
Shipped to foreign ports by water.....	2,800	
Home consumption.....	6,000	
Shipped eastward by water.....	100	
		73,100
On hand June 1, 1895.....		7,000
<i>Oregon.</i>		
Stock from 1893 on hand June 30, 1894.....	500	
Crop of 1894.....	62,600	
		63,100
Shipped overland by rail.....	60,300	
Shipped to California.....	400	
Home consumption.....	1,000	
		61,700
On hand June 1, 1895.....		1,400
<i>Washington.</i>		
Stock from 1893 on hand June 30, 1894.....	1,300	
Crop of 1894.....	49,000	
		50,300
Shipped overland by rail.....	44,300	
Home consumption.....	1,000	
		45,300
On hand June 1, 1895.....		5,000
<i>British Columbia.</i>		
Shipped eastward.....		2,000
<i>Recapitulation.</i>		
Total stock on hand June 30, 1894.....	4,300	
Total returned from New York.....	400	
Total Pacific Coast crop, 1894.....	190,400	
		195,100
Total rail shipments.....	170,800	
Total water shipments.....	2,900	
Total consumed by local brewers.....	8,000	
		181,700
Total stock on hand June 1, 1895.....		13,400

ANNUAL METEOROLOGICAL REVIEW  
OF THE  
STATE OF CALIFORNIA FOR THE YEAR 1894,

BY THE

Meteorological Department of the State Agricultural Society.

Compiled by JAMES A. BARWICK, Observer United States Weather Bureau, Director California Weather Service, and Meteorologist to the State Agricultural Society.

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SACRAMENTO, CAL., January 1, 1895.

*Mr. EDWIN F. SMITH, Secretary State Agricultural Society, Sacramento, Cal.:*

SIR: I have the honor to transmit herewith my thirteenth annual meteorological summary of this State, for the year 1894. The data consist of five tables, designated as follows:

Table No. 1 gives the average temperature, the highest and lowest temperatures, and the total precipitation for each month and for the year from two hundred and ninety-eight stations, the table concluding with the monthly averages for the State, as also the highest and lowest temperatures.

Table No. 2 gives the clear, fair, cloudy, and rainy days from sixty-five stations, along with the monthly and annual averages for the State.

Table No. 3 shows the mean monthly and annual temperatures and precipitation, with normals and departures therefrom, along with the highest and lowest temperatures and greatest precipitation for the State.

Table No. 4 gives the average number of clear, fair, cloudy, and rainy days for the State by months and seasons, also the average seasonal temperatures and precipitation, with departures from the normals.

Table No. 5 shows the total velocity of wind, in miles, for each month and for the year from twelve stations situated in various parts of the State.

The entire set of tables gives, in a condensed form, valuable information of the various climatic features of this great State, being valuable data for general distribution in enlightening strangers upon the various climates that may be found in California.

Very respectfully, your obedient servant,

JAMES A. BARWICK,  
Observer Weather Bureau, Meteorologist to the State Agricultural Society, and Director California Weather Service.



TABLE

*Annual and Monthly Miscellaneous Climatic Data of the California Weather Service, for the Total Precipitation for each*

Compiled from the records of the Voluntary Observers throughout the

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches -----	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches -----
Anaheim .....	49	76	35	.68	52	75	36	.35
Agnews .....	49	68	29	3.51	49	66	34	2.43
Arlington Heights .....	48	76	25	.60	49	75	29	.21
Adin .....								
Ager .....								
Anderson .....	38	53	21	7.12	42	62	20	3.94
Antioch .....	46	61	30	4.29	47	67	33	2.54
Aptos .....	46	60	18	7.50	48	66	30	6.05
Athlone .....	46	60	26	2.55	50	74	35	3.78
Auburn .....	46	75	25	6.96	48	75	29	9.89
Año Nuevo Lighthouse .....				8.00				4.35
Bakersfield .....	46	65	28	.91	48	67	33	.00
Beaumont .....	48	70	27	.30	45	80	28	2.09
Belmont .....	49	65	34		57	70	40	
Berenda .....	46	68	27	1.79	48	70	34	2.61
Brentwood .....	44	58	27	5.04	47	65	32	3.10
Brighton .....	49	70	24	2.45	50	70	35	2.29
Byron .....	42	56	26	3.99	46	65	29	2.65
Ballast Point Lighthouse .....				.40				.60
Berkeley .....	46	59	31	9.54	47	60	34	3.77
Bethany .....	47	68	34	4.22	48	64	32	4.81
Briggs' Vineyard .....	52	78	30	6.34	55	81	31	2.71
Barstow .....	42	68	17	.02	46	72	22	.21
Bishop Creek .....	36	67	8	.30	41	71	16	.75
Boca .....	26	65	22	5.10	29	70	15	7.55
Borden .....	46	70	24	.00	47	72	32	1.89
Boulder Creek .....	52	74	26	14.92	52	72	26	13.87
Chino .....	44	68	24	1.10	46	69	27	.61
Crescent City .....				16.40				6.37
Crescent City Lighthouse .....				16.39				6.35
Colusa .....	43	59	25	3.37	46	67	29	1.00
Cape Mendocino Lighthouse .....				19.31				6.15
Cloverdale .....	47	62	28	13.72	50	67	34	7.09
Covelo .....				15.53				8.29
Cedarville .....								
Claremont .....	45	70	24	1.73	46	68	29	1.22
Crafton .....	47	70	28	1.32	49	84	32	.84
Castroville .....	49	68	20	4.95	50	65	25	2.34
Caliente .....	46	65	29	3.30	48	67	31	1.40
Calistoga .....	49	69	24	15.28	49	66	30	7.82
Capitola .....	49	68	24		50	68	32	
Chico .....	45	64	24	7.19	46	70	28	2.52
Cisco .....	24	39	5	16.45	24	37	6	18.65
Colfax .....	39	60	20	13.43	42	80	28	9.76
Colton .....	48	68	29	.20	53	70	30	.55
Corning .....	45	66	32	3.90	49	72	30	4.30
Davisville .....	45	62	30	3.50	46	68	32	2.05
Delano .....	44	64	24	.47	47	70	29	.45
Del Monte .....	49	63	30		50	69	34	
Delta .....	42	55	23	14.30	45	68	24	3.70
Dinuba .....	44	62	23	1.08	46	70	30	1.47
Downey .....	53	80	30	.74	54	80	32	.80
Dunnigan .....	46	60	20	5.78	45	68	28	2.06
Dunsmuir .....	38	51	15	17.53	38	60	8	7.60
Drytown .....	43	52	22	6.32	44	64	27	7.79
Deep Creek .....				1.94				1.89
Evergreen .....				4.90				3.01

No. 1.

*Year 1894, showing the Mean Temperature, Maximum and Minimum Temperatures, and Month and for the Year.*

State; also including the regular United States Weather Bureau Stations.

March.				April.				May.				June.			
Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
55	81	44	.48	61	81	50	.13	63	81	51	.10	67	86	54	.00
52	76	33	.73	56	87	35	.33	59	84	35	1.24	61	78	40	.37
54	88	29	.48	61	90	34	.02	62	88	42	.49	65	92	46	.00
---	---	---	---	47	74	23	.83	54	83	22	4.31	56	83	29	1.26
46	76	26	1.53	53	86	26	.00	61	90	32	3.06	64	92	38	1.02
48	74	22	1.98	56	86	38	.61	63	90	46	1.79	66	88	50	1.56
53	77	36	.37	64	87	46	.28	66	91	48	1.61	69	95	56	.84
52	80	30	.92	56	80	36	.89	57	77	40	2.50	62	82	50	.24
54	85	35	.32	63	95	44	.37	68	95	48	2.47	74	101	50	.72
52	84	29	1.95	62	85	40	1.35	64	90	43	2.77	66	95	53	1.38
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
---	---	---	1.55	---	---	---	.50	---	---	---	2.20	---	---	---	1.00
57	79	38	.50	66	89	43	.00	75	97	50	.02	76	95	53	.17
59	92	31	.35	65	90	38	.32	66	90	40	.43	67	90	50	.00
57	73	44	---	59	85	47	---	62	78	52	---	61	78	45	---
56	84	36	.48	68	65	50	.10	69	95	45	1.82	75	102	55	.80
51	78	38	.25	61	90	46	.12	66	92	50	1.35	69	96	58	1.10
56	85	32	.31	64	85	40	.10	70	109	48	1.89	65	105	52	.34
51	80	31	.32	61	86	44	.10	60	87	44	1.59	76	92	53	1.00
---	---	---	1.25	---	---	---	.10	---	---	---	.00	---	---	---	.00
50	69	34	.91	56	80	40	.57	57	75	42	2.01	59	76	47	1.11
52	77	36	.33	60	86	42	.66	63	90	45	1.13	64	100	52	.07
60	90	37	.60	68	97	41	.29	67	94	40	1.85	67	94	51	1.97
55	84	24	.06	64	90	37	.00	69	97	35	.22	71	99	46	T.
54	81	31	.09	65	91	38	.05	74	94	48	T.	74	92	52	.35
33	70	00	.75	41	75	15	1.00	50	90	20	.33	54	90	25	T.
55	82	32	.15	64	90	44	.08	69	95	46	1.17	73	100	55	.55
49	74	30	2.11	60	88	36	2.44	60	84	44	3.26	63	88	49	.39
52	82	31	.47	60	90	44	.25	61	83	48	.21	66	86	54	.00
46	63	30	14.11	48	64	32	4.41	52	70	35	.82	55	66	39	2.57
---	---	---	15.41	---	---	---	4.35	---	---	---	.86	---	---	---	2.94
53	83	30	.80	61	86	33	.20	67	90	39	2.52	69	96	46	.71
---	---	---	6.71	---	---	---	1.48	---	---	---	1.74	---	---	---	1.61
54	75	34	2.35	62	87	36	1.91	66	90	40	2.70	65	98	50	1.71
---	---	---	4.48	---	---	---	2.18	---	---	---	1.45	---	---	---	1.24
---	---	---	---	---	---	---	---	55	83	29	.55	56	81	28	1.07
53	81	28	1.05	57	91	31	.33	59	83	37	.42	63	87	41	.00
56	86	35	1.18	64	87	45	.20	67	84	50	.84	72	94	52	.00
54	69	31	.50	55	72	43	.40	60	78	49	1.70	60	72	50	.20
55	76	38	1.60	66	90	45	.20	72	92	45	.50	76	102	50	.70
53	79	34	3.21	60	88	41	2.45	65	92	49	2.01	66	93	51	1.29
52	70	30	---	58	82	44	---	60	78	48	---	63	80	52	---
53	78	28	1.68	60	88	36	.00	64	92	42	1.80	63	102	48	.97
31	45	10	5.30	37	52	21	3.55	43	67	22	2.60	48	77	28	.00
47	70	24	3.63	56	93	32	---	60	86	32	3.45	63	90	40	2.45
56	82	32	2.00	65	90	44	.10	67	91	44	.50	70	94	53	.00
54	82	34	.85	65	98	44	.40	69	96	52	1.30	69	102	58	---
52	78	35	.94	60	82	40	.30	68	90	50	1.64	74	95	58	1.65
55	83	32	.64	67	90	50	.16	71	93	50	.07	72	95	56	.55
58	70	35	---	56	73	41	---	58	73	49	---	61	76	52	---
53	77	32	2.60	63	89	38	2.75	70	94	48	3.50	73	98	52	2.25
56	80	32	1.02	69	98	50	.00	74	90	62	.37	71	93	55	1.20
56	90	38	.52	62	85	50	.20	61	84	50	.23	67	84	58	.00
51	78	34	.93	62	88	41	.48	67	90	52	1.78	71	96	54	.36
46	77	21	6.05	54	81	32	1.70	63	83	38	4.35	65	88	44	2.10
50	76	27	1.48	58	85	32	1.03	62	90	35	3.89	63	91	41	1.18
---	---	---	2.75	---	---	---	.70	---	---	---	1.01	---	---	---	.12
---	---	---	1.21	---	---	---	.42	---	---	---	1.71	---	---	---	.28

TABLE No. 1—

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
Engineer's Quarters, Little Bear Valley.....				2.48				2.25
East Brothers Island Lighthouse.....				1.93				1.26
Elmira.....	45	65	28	8.12	48	70	34	4.20
Edgewood.....	30	48	10	5.13	34	58	8	.50
El Dorado.....	46	62	26	8.74	46	70	30	11.90
Eureka.....	46	59	28	12.38	44	56	29	6.13
El Verano.....	46	61	27	11.86	48	67	31	4.97
Emigrant Gap.....	31	47	11	10.10	29	42	8	15.50
Esparto.....	45	60	30	5.58	46	67	34	2.85
Exeter.....	47	66	28	1.39	50	74	29	.60
Farmington.....	47	68	23	5.17	50	67	30	5.17
Felton.....	48	74	20	11.36	52	80	28	12.73
Fernando.....	47	70	28	.59	46	70	30	.61
Florence.....	52	80	30		49	75	30	.25
Farallone Islands Lighthouse.....				5.59				2.16
Folsom.....	46	62	26	5.89	48	68	32	6.40
Fresno.....	44	64	25	2.27	47	69	30	2.02
Florin.....	44	57	26	4.41	44	68	30	3.51
Fort Ross.....				18.66				6.60
Fallbrook.....	45	76	30	.87	46	71	30	1.10
Fremontville.....								
Fruto.....	45	60	30	5.35	46	69	32	1.40
Greenville.....				11.24				11.72
Grass Valley, Nevada County.....				2.88				1.24
Grass Valley, San Bernardino County.....				2.18				2.01
Green Valley.....								
Georgetown.....	40	58	15	13.89	39	64	22	16.25
Gorman's Station.....				3.00				1.64
Galt.....	47	63	28	4.02	49	67	33	5.93
Gilroy.....	46	64	22	4.71	48	68	30	3.04
Girard.....	37	60	11	1.75	37	60	12	1.90
Glen Ellen.....	45	58	25	18.67	46	68	28	8.70
Goshen Junction.....	46	66	22	1.45	47	70	28	T.
Haywards.....	46	58	32	7.06	46	55	32	3.60
Hollister (S. P. Co.).....	47	65	20	3.99	49	72	30	2.77
Hornbrook.....	36	55	18	3.20	35	60	5	.70
Huron.....	53	65	35	.40	51	65	32	.35
Henderson's Ranch.....				.46				.40
Hueneme.....				.44				.36
Holcomb Valley.....				.87				.90
Hydesville.....	45	60	23	13.57	42	60	24	5.90
Healdsburg.....	41	56	28	12.21	42	62	30	6.08
Humboldt Lighthouse.....				11.84				5.36
Independence.....	37	63	9	.12			12	.42
Iowa Hill.....	41	62	20	11.07	40	66	23	12.25
Indio.....	54	83	23	.00	45	90	32	.00
Ione.....	43	60	24	4.44	44	63	29	6.03
Jackson.....	39	54	21	9.88	40	58	24	10.84
Jolon.....				1.48				.68
Kennedy Gold Mine.....	42	58	22	9.32	43	64	28	11.86
Kernville.....				1.10				1.88
Kings City.....	47	66	20	1.47	47	70	28	.66
Keene.....	40	60	12	3.60	41	62	19	1.65
Keeler.....	38	57	19	T.	41	65	25	.29
Kingsburg.....	46	62	25	1.79	49	70	33	.88
Knight's Landing.....	45	60	26	3.42	45	68	32	1.64
Lathrop.....	45	64	28	3.13	48	67	31	3.80
Laurel.....	44	65	24	10.80	46	67	29	11.33
Lemoore.....	45	65	23	1.34	45	72	28	.43
La Lebre Ranch.....				.66				.42
Livermore.....	46	62	30	4.97	49	65	30	5.36
Los Gatos.....	44	62	25	6.98	45	64	29	5.22



Continued.

March.				April.				May.				June.			
Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
---	---	---	3.16	---	---	---	.62	---	---	---	1.34	---	---	---	.12
---	---	---	.14	---	---	---	.16	---	---	---	.55	---	---	---	.24
53	85	35	.97	65	87	42	.57	69	98	52	1.08	71	95	50	.63
43	74	18	1.83	50	74	33	.15	58	84	33	3.50	61	87	40	.72
51	81	32	2.25	61	87	41	1.63	67	90	44	3.98	67	97	54	1.00
46	62	32	7.46	49	64	36	2.97	51	63	36	1.31	54	65	42	1.67
52	75	35	2.49	59	84	41	1.16	63	87	47	1.57	64	92	53	1.15
34	50	12	1.80	43	59	24	2.62	48	71	22	1.60	52	78	32	2.29
51	80	37	.42	62	91	48	.56	66	95	43	1.74	68	103	50	.97
66	95	33	1.11	66	95	45	.30	70	98	50	.33	71	98	53	1.32
52	75	39	.13	62	82	43	.50	66	82	50	2.80	71	100	52	.68
55	86	28	.60	58	96	34	1.54	62	90	38	2.60	65	92	40	.74
51	80	29	.75	58	88	36	.24	60	83	41	.32	62	88	44	.00
60	80	38	.57	63	85	40	---	65	85	50	.11	67	81	58	.00
---	---	---	.25	---	---	---	.77	---	---	---	1.05	---	---	---	.50
54	82	33	1.13	62	93	49	.51	68	94	48	2.81	70	101	58	.99
53	81	32	.29	62	92	38	.10	68	95	40	1.16	69	100	47	1.16
50	84	31	.52	58	90	38	.59	64	92	43	2.37	67	97	49	---
---	---	---	4.25	---	---	---	2.37	---	---	---	3.01	---	---	---	1.86
50	83	30	1.36	57	63	36	.08	59	82	42	.31	62	88	48	.00
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	.00
54	75	35	.38	62	85	43	.50	69	80	48	---	62	87	51	.00
37	69	10	2.92	45	75	22	2.05	54	85	24	1.70	72	98	55	.95
---	---	---	2.96	---	---	---	1.67	---	---	---	1.45	56	86	28	1.33
---	---	---	2.87	---	---	---	.67	---	---	---	3.46	---	---	---	2.05
---	---	---	3.80	---	---	---	.75	---	---	---	1.35	---	---	---	.13
46	70	20	4.74	55	79	31	2.40	59	80	33	1.19	---	---	---	.05
---	---	---	1.31	---	---	---	.60	---	---	---	5.25	60	87	36	1.61
54	80	37	.66	63	89	49	.61	67	94	50	.41	---	---	---	.12
51	80	30	.66	61	80	43	.55	60	86	45	3.60	70	98	56	.63
44	65	25	3.05	53	80	32	.18	59	88	32	1.28	63	85	50	.00
56	76	29	2.46	59	87	40	2.03	63	92	45	.45	62	94	43	.20
58	83	30	.29	69	92	42	.00	74	96	48	2.14	64	92	52	1.00
50	70	34	.72	56	80	42	.42	60	80	50	.08	72	100	36	1.03
53	83	32	.79	62	92	41	.40	62	82	48	1.47	63	80	54	.34
44	74	20	1.50	52	80	32	.00	62	84	40	1.07	64	85	50	.09
52	85	35	.00	60	90	40	.10	66	95	45	3.78	66	88	48	1.12
---	---	---	.15	---	---	---	.15	---	---	---	.20	70	95	50	.38
---	---	---	.34	---	---	---	.15	---	---	---	.40	---	---	---	.00
---	---	---	1.68	---	---	---	2.15	---	---	---	.79	---	---	---	.03
47	75	26	6.28	50	74	33	2.15	53	72	36	1.62	58	79	35	2.32
47	68	32	1.93	54	84	34	1.88	57	80	34	2.17	59	88	42	1.73
---	---	---	7.31	---	---	---	1.77	---	---	---	1.30	---	---	---	1.48
---	18	.09	60	86	32	.02	66	93	37	.10	---	67	95	38	.11
47	72	23	4.20	57	83	35	2.10	61	87	38	4.03	62	90	46	1.64
64	102	36	.00	75	100	53	.00	79	102	58	.00	80	103	62	.00
53	84	31	.35	64	89	44	.51	68	89	43	3.39	70	97	45	.46
45	60	22	2.52	55	78	30	1.38	58	86	30	4.15	58	84	36	1.48
---	---	---	.46	---	---	---	.22	---	---	---	1.35	---	---	---	.52
49	74	25	2.23	57	85	35	1.48	60	86	35	5.64	62	92	40	1.89
---	---	---	.42	---	---	---	.17	---	---	---	.53	---	---	---	.00
50	88	32	.30	63	102	36	.06	63	88	40	.66	60	84	45	.18
46	72	30	2.25	55	84	36	.55	62	85	36	.40	64	94	48	.20
51	74	30	.01	60	84	44	T.	67	92	40	T.	72	99	44	T.
54	80	35	.77	63	92	45	.00	74	95	57	.19	74	98	53	1.05
53	85	32	1.24	61	92	32	.32	70	94	40	1.91	72	99	56	.49
53	81	35	.63	63	87	47	.12	67	90	53	1.46	69	97	56	.57
50	80	30	1.73	58	88	37	1.66	58	86	40	4.26	61	87	45	.83
54	81	34	.00	64	92	40	.00	70	96	45	.29	73	100	54	.26
---	---	---	.66	---	---	---	.12	---	---	---	.66	---	---	---	.00
50	78	32	.81	56	85	37	.58	60	87	40	1.19	62	92	45	.52
48	75	31	1.30	55	82	35	1.50	58	84	36	2.25	59	90	39	.22

TABLE No. 1—

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
Los Alamos				1.15				1.41
Lime Point Lighthouse				6.52				2.02
Lakeport	43	56	28	6.92	44	63	29	4.32
Lick Observatory	36	53	17	9.74	36	54	16	10.52
La Porte								
Livingston	48	68	28	2.63	50	70	32	2.95
Long Beach	48	78	28		50	72	32	
Los Angeles	51	75	32	.94	51	73	35	.49
Los Baños	45	65	23	1.80	46	58	30	1.50
Lodi	45	60	24	3.99	47	65	30	6.75
La Grange	46	63	25	6.17	47	68	30	6.43
Middletown	44	71	24	14.37	45	75	26	8.32
Manzana	38	67	14	.21	39	65	19	.37
Mountain View				4.06				2.56
Mare Island Lighthouse				5.64				2.72
Mills College				10.36				4.15
Martinez	45	58	26	6.44	45	60	32	3.07
Mariposa	40	68	22	6.70	41	64	22	9.01
Mokelumne Hill	39		24	9.32	41		24	9.38
Meadow Valley	30	54	4	17.46	29	52	10	16.48
Mojave	41	66	16	.48	42	70	26	.54
Montague	40	60	18	2.72	36	58	10	2.13
Monterey	46	60	26	3.25	48	66	30	2.05
Marysville	48	63	28	.34	45	65	35	1.74
Menlo Park	47	60	30	4.60	48	62	33	2.80
Merced	43	62	22	2.68	46	67	32	3.28
Modesto	46	69	27	3.36	48	78	32	3.18
Morse's House, Little Bear Valley				4.78				3.93
Mendota					44	62	28	.86
Mammoth Tank	51	75	27	.00	53	82	33	.00
Milton	44	62	27	6.31	46	65	30	7.05
Napa	47	60	30	8.17	48	67	32	2.97
New Almaden	46	65	26	4.80	49	67	31	2.38
Newark	48	68	32	6.00	47	58	36	3.43
Newcastle	41	58	23	7.17	43	65	27	8.26
Newhall	49	76	19	.85	46	78	22	.29
Newman	44	65	25	1.97	49	63	27	.89
Niles	50	63	35	7.28	50	67	38	4.99
Norwalk	50	75	20	.67	51	72	31	.55
Nevada City	38	58	12	11.71	38	62	20	10.85
Nordhoff	46	72	22	.68	47	72	25	.74
Neenach	38	65	14		40	75	16	
Needles	48	69	26	.00	52	78	31	.12
Oroville	47	65	27	5.97	46	65	31	2.71
Orangevale	45	57	24	5.85	46	69	30	6.14
Oakland	45	58	29	9.02	48	65	35	3.70
Oleta	40	57	20	7.23	41	61	27	9.01
Oakdale	38	63	20	5.59	44	66	27	5.21
Ontario	47	74	25	1.75	47	74	30	1.00
Ogilby	50	76	33	.00	54	79	36	.00
Orland	46	58	30	3.13	48	68	29	2.75
Pajaro	47	66	26	4.97	53	67	32	3.55
Palm Springs	50	78	25	.00	57	82	38	.00
Paso Robles	42	63	19	1.06	46	70	25	.59
Placerville	38	57	16	11.05	39	62	22	13.02
Pleasanton	43	60	20	4.31	43	66	27	5.92
Pomona	45	69	24	2.36	46	70	28	.82
Port Los Angeles	51	68	42	1.08	52	62	43	.64
Porterville	47	66	28	1.52	49	72	31	.83
Puenta	51	73	30	.42	54	78	28	.20
Palermo	44	59	22	3.76	45	69	28	2.34
Petaluma	48	62	28	8.41	50	71	36	3.22

Continued.

March.				April.				May.				June.			
Mean Temperature..	Maximum Temperature..	Minimum Temperature..	Precipitation, Inches.....	Mean Temperature..	Maximum Temperature..	Minimum Temperature..	Precipitation, Inches.....	Mean Temperature..	Maximum Temperature..	Minimum Temperature..	Precipitation, Inches.....	Mean Temperature..	Maximum Temperature..	Minimum Temperature..	Precipitation, Inches.....
			.87				.28				1.35				.00
			.83				.21				1.65				.59
49	72	32	1.11	58	79	32	.91	61	82	40	.90	64	87	44	1.64
40	64	20	2.54	49	72	25	.89	52	72	27	2.78	53	79	31	.64
				43	65	28	3.05	48	74	28	2.00	51	80	29	3.49
61	82	38	.25	66	96	42	.29	72	99	47	2.02	75	105	56	.78
53	78	40		57	78	46		60	72	52		62	78	54	
54	82	35	.37	59	85	41	.13	60	80	46	.20	63	83	46	T.
53	78	36	.00	70	88	44	.00	72	92	56	1.06	76	94	56	.56
53	84	31	.57	60	87	37	.44	63	89	39	3.33	65	95	45	1.19
53	79	31	.61	63	95	38	.30	68	98	42	3.39	70	100	54	.66
50	80	30	2.09	58	94	34	2.65	60	94	36	2.06	63	94	46	.89
49	83	25	.36	56	89	30	T.	59	91	33	.35	62	91	37	.17
			.52				.44				1.08				.22
			.48				.60				.94				.45
			1.04				.73				1.47				.80
51	72	32	.52	54	80	40	.64	58	84	42	.73	61	86	50	.65
48	75	25	2.11	57	81	35	1.06	62	86	39	2.99	63	90	48	2.78
47		28	.50	56		38	1.36	61		42	3.41	63		48	1.62
35	63	12	7.08	50	74	33	.15	50	78	24	2.85	51	82	28	2.26
54	83	30	.24	64	90	41	T.	70	93	40	.03	70	95	48	.00
47	73	30	2.28	57	77	42	.05	62	80	43	2.50	67	87	48	1.04
52	68	32	.82	57	78	40	.60	59	74	42	1.86	59	88	50	.00
54	72	35	.73	61	90	39	.47	66	97	46	1.86	67	98	50	.64
50	70	33	.57	59	84	40	.00	60	86	43	.99	63	90	48	.01
52	80	32	.21	60	89	43	.28	67	95	45	2.02	68	98	47	.54
53	86	38	.00	64	95	46	.23	69	92	55	1.72	74	99	58	.00
			5.00				1.37				2.08				.60
47	74	34	.00	65	92	40	.10	73	93	54	.47	77	98	63	.49
64	96	40	.00	75	100	58	.00	83	102	62	.00	86	105	68	.00
52	77	33	1.16	62	90	45	.98	66	92	44	3.21	67	101	50	1.46
53	76	33	1.15	60	84	39	.61	63	83	40	1.49	65	87	47	.85
52	75	34	.88	58	87	44	.68	62	90	45	1.11	63	96	47	.09
55	68	34	.67	60	82	46	.45	62	86	46	1.70	65	78	55	.34
49	76	27	1.49	58	86	34	1.04	62	87	37	2.21	64	95	40	.87
54	89	30	.62	61	92	42	.15	62	88	42	.66	67	95	48	.00
54	75	32	.00	69	91	57	T.	72	93	52	.83	72	96	57	.34
54	78	39	1.23	59	89	47	.54	62	90	50	1.94	63	96	55	.33
52	80	34	.43	62	86	50	.33	66	89	52	.00	68	90	60	.05
44	69	19	3.26	52	77	27	2.17	57	82	30	3.54	58	88	33	1.80
51	83	26	.29	56	90	32	.19	56	81	35	.97				
								64	96	36		65	91	46	
63	88	36	.65	72	95	46	.00	81	103	50	T.	83	108	61	.00
52	72	31	.95	63	82	40	1.20	67	94	43	2.85	65	88	46	.45
52	79	30	1.47	60	88	37	.52	66	93	38	2.51	68	107	41	.62
52	72	34	.79	57	80	41	.41	59	79	40	1.89	61	82	46	.95
47	72	28	1.11	54	80	36	1.13	59	83	40	3.69	60	88	47	1.06
51	79	27	.54	60	87	43	.88	65	91	46	2.57	67	97	51	.97
55	92	31	.75	62	95	36	.12	63	87	40	.48	66	93	43	.00
67	99	44	.26	76	99	49	.00	84	101	57	.00	86	105	61	.00
53	78	40	.40	62	90	44	.53	66	96	42	1.08	71	105	46	.35
52	69	36	.40	54	80	39	.30	58	88	40	1.90	59	89	40	.40
63	98	38	.00	75	100	51	.00	80	102	55	.00	94	114	78	.00
50	84	24	.22	58	87	30	.24	61	92	38	1.09	63	90	42	.12
45	72	22	2.94	53	78	28	2.24	56	82	32	4.70	60	91	35	1.63
47	77	27	.71	54	88	25	.95	58	90	32	1.46	61	92	33	.41
53	80	28	.65	63	94	38	.12	66	92	42	.36	68	98	42	.00
53	62	47	.23	56	70	48	.28	58	68	50	.07	61	70	54	.00
56	84	34	.71	68	93	48	.32	74	94	52	.42	78	108	53	1.09
55	79	39	.80	62	92	48	.08	65	81	42	.20	68	88	53	.00
52	78	30	.79	61	89	35	.74	66	94	37	3.41	69	102	44	.30
53	73	37	.85	60	92	48	.69	62	90	47	.69	62	89	50	.69



TABLE No. 1—

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
Point Lobos .....	46	54	36	5.17	47	57	38	2.48
Pasadena .....	49	75	28	1.45	50	73	33	.74
Poway .....	39		23	.79	44		28	1.29
Point Reyes Lighthouse .....				8.26				2.39
Point Arena Lighthouse .....				10.38				5.36
Piedras Blancas Lighthouse .....				3.34				3.79
Point Pinos Lighthouse .....				3.21				2.31
Pigeon Point Lighthouse .....				2.24				2.80
Point Montara Lighthouse .....				7.58				3.16
Point Benito Lighthouse .....				9.18				4.70
Point Fermin Lighthouse .....				.29				.67
Point Hueneme Lighthouse .....								.36
Point Conception Lighthouse .....				2.08				1.73
Point Sur Lighthouse .....				4.77				2.94
Roe Island Lighthouse .....				3.95				2.37
Represa .....	46	64	26	4.71	49	67	31	5.53
Rio Vista .....	45	59	25	5.61	48	68	29	4.56
Riverside .....	47	79	26	.99	48	76	26	.35
Reedley .....		64	28	1.55		70	32	1.70
Rosewood (Hunter's P. O.) .....	40	57	21	5.80	41	63	22	2.30
Redding .....	42	62	25	9.78	44	66	27	5.36
Redlands .....	47	69	28	1.43	47	73	31	1.04
Ravena .....	42	72	24	.13	44	77	24	.10
Red Bluff .....	42	59	27	5.29	45	67	30	2.30
Rocklin .....	50	70	28	6.30	51	73	34	6.01
Sacramento .....	44	58	26	4.17	47	66	32	3.92
Salinas .....	48	63	26	5.07	50	62	34	3.30
Salton .....	53	79	24	.00	55	90	28	.00
Sanger Junction .....	46	70	27	2.14	51	75	32	2.46
San Ardo .....	45	68	19	1.18	47	70	25	.34
San Gabriel .....	47	74	28	.73	48	73	32	.48
San Luis Obispo .....				1.94				2.31
San Luis Obispo Lighthouse .....				1.67				2.71
Saticoy .....				.83				.37
St. George's Reef .....				8.96				4.57
San Francisco .....	48	58	36	5.99	48	62	38	2.69
San José .....	45	63	18	4.71	46	64	24	2.35
San Mateo .....	49	60	32	7.42	50	63	36	6.62
San Miguel .....	45	63	21	.90	47	69	27	.41
San Pedro .....	52	71	37	.43	54	79	42	.75
Santa Ana .....	52	75	32	.50	56	78	37	.50
San Diego .....	50	69	32	.29	50	69	34	.49
Santa Barbara .....	50	70	33	.99	51	69	34	.76
Santa Barbara Lighthouse .....				.76				.90
Santa Cruz Lighthouse .....				7.01				7.17
Santa Cruz .....	49	65	27	7.02	49	70	32	8.60
Santa Margarita .....	38	59	19	2.99	45	65	24	3.21
Santa Monica .....	46	65	26	.95	47	68	32	.55
Santa Paula .....	48	70	27	1.04	50	70	30	.00
Santa Rosa .....	47	59	26	9.61	49	67	33	3.78
Selma .....	46	65	26	1.51	48	70	32	1.21
Shingle Springs .....	42	70	19	7.07	43	65	23	9.40
Sims .....	35	55	14	10.98	36	63	16	4.40
Sisson .....	31	52	12	10.72	33	53	4	2.60
Soledad .....	46	66	22	2.05	48	72	28	.60
South Vallejo .....	48	59	32	6.26	48	68	36	1.98
Spadra .....	49	78	30		51	81	30	.09
Stockton .....	44	62	26	3.88	46	65	31	4.93
Suisun .....	46	60	26	6.33	49	70	34	2.29
Summit .....	24	43	—5	15.50	24	38	5	15.25
Susanville .....	30	48	4	6.10	30	53	3	3.53
Shasta Springs .....	37	56	13	13.39	33	57	11	6.44

Continued.

March.				April.				May.				June.			
Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
48	62	36	.62	51	68	41	.15	54	68	42	1.71	54	64	46	.55
48		33	1.64	55		47	.14	57		51	.21	59		52	.15
			2.06				.66				2.31				1.15
			2.42				1.38				1.63				1.92
			.65				.47				2.55				.27
			.96				.80				1.80				.65
			.81				.22				1.55				.63
			.85				1.00				1.39				.44
			1.85				.87				2.44				.97
			.28				.35				.42				.00
			.36				.23				.53				.00
			.39				.04				.72				.33
			.94				.76				1.55				.21
			.33				.25				1.05				.36
52	78	32	.65	57	82	27	.56	63	89	35	2.80	65	90	42	1.10
54	78	32	.65	64	87	43	.35	65	91	42	1.23	66	96	47	.98
54	88	27	.72	60	92	34	.03	62	87	39	.26	64	98	40	.04
	83	32	.60		90	38	.15		92	48	.60	74	96	52	1.45
49	74	25	2.40	59	90	44	2.00	66	87	46	3.20	69	92	51	.88
51	76	29	2.89	60	85	35	1.84	65	89	44	2.45	68	98	43	.95
52	84	34	1.01	62	88	45	.25	63	84	48	.64	68	94	54	.00
50	84	28	.75	60	88	40	.15	62	89	48	.40	72	93	56	.00
52	76	30	2.40	61	90	38	.55	67	95	43	1.46	69	101	46	1.00
56	79	36	1.08	63	86	43	.32	69	94	50	2.65	71	100	57	.65
53	78	34	.74	61	86	39	.34	64	88	40	1.70	65	96	50	.46
51	65	37	.58	52	65	40	.45	55	78	45	1.53	60	80	50	.29
69	103	38	.00	80	103	54	.00	84	111	55	.00	90	118	68	.00
56	85	35	.56	67	95	45	.21	71	95	45	.60	73	95	50	1.55
51	88	28	.13	59	98	39	.10	63	90	43	.68	63	100	45	.15
56	79	36	.43	62	89	47	.07	67	82	50	.23	68	90	50	.00
			.79				.41				1.32				.21
			.68				.06				.65				.40
			.25				.10				.66				.00
			12.56				1.81				.11				.00
51	66	37	.60	55	82	42	.50	55	72	44	1.31	56	69	47	.56
48	76	26	.77	54	85	29	.52	58	84	32	1.48	60	89	35	.30
52	70	39	1.07	60	83	48	.94	62	85	51	.61	63	81	52	.00
54	86	32	.13	60	80	44	.06	64	94	44	.00	69	96	50	.00
58	79	42	.20	62	85	52	.14	63	75	55	.16	67	81	60	.00
60	78	45	.63	59	98	39	.10	68	87	56	.13	75	88	60	.00
53	72	36	1.05	56	83	43	.11	59	72	45	.09	61	73	50	.01
53	74	34	.29	57	82	44	.24	58	74	61	.91	61	90	46	.00
			.28				.23				.79				.00
			1.38				.71				2.06				.62
52	78	31	1.64	58	86	36	.66	59	85	37	2.36	62	85	43	.72
50	84	34	.50	59	91	36	.85	62	92	43	2.10	65	82	50	.00
52	72	31	.20	58	70	50	T.	60	71	47	.23	68	73	58	.00
54	80	29	.00	64	92	35	.23	56	74	37	.56	60	94	43	.00
52	66	33	1.31	58	83	45	1.08	62	87	47	1.84	64	88	52	1.30
56	80	36	.40	66	94	50	.08	73	98	52	.22	73	95	52	.90
48	72	22	1.60	55	82	35	1.03	60	77	40	3.25	59	87	32	2.83
43	75	21	6.37	52	83	30	1.00	59	89	36	3.42	61	90	37	2.52
39	70	12	3.45	46	85	26	.70	57	86	27	2.85	60	87	40	2.25
51	78	30	.40	57	90	42	.22	61	80	44	.62	66	82	50	.00
53	69	41	.47	60	81	45	.54	61	83	49	.87	64	80	53	.31
56	85	33	.44	62	85	43	-----	65	80	50	.28	71	90	58	.00
52	75	32	.45	60	82	40	.10	64	89	40	1.84	64	95	47	.70
54	80	35	.88	63	90	48	.41	64	93	45	1.85	64	98	55	.77
29	43	1	3.40	36	52	18	4.30	43	62	18	2.40	47	72	28	.00
39	68	19	2.35	48	73	31	.95	56	82	35	1.55	60	85	33	.75
40	69	19	4.49	49	80	25	3.55	56	88	24	4.05	59	87	32	2.83

TABLE No. 1—

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
Sonoma .....	44	62	28	10.39	45	68	31	3.96
San Rafael .....	46	59	27	10.79	47	68	30	5.46
Sutter Creek .....	37	54	18	5.95	38	60	23	7.70
Santa Clara .....	46	65	27	4.64	52	70	32	1.85
Santa Clara (near) .....	46	65	27	4.64	49	66	32	2.16
San Miguel Island .....								
Snedden's Ranch .....				1.31				.65
Squirrel Inn .....				4.00				3.23
Tunnel No. 2 .....				1.75				1.41
Sweetwater Dam .....	50	76	32	.36	51	71	34	.71
San Leandro .....								
Stanford University .....								
Summerdale .....								
Santa Maria .....	48	70	26	1.16	49	72	32	1.78
San Bernardino .....	47	74	23	1.26	48	74	28	.88
San Jacinto .....	47	78	20	.67	47	78	22	.96
Trinidad Head Lighthouse .....				10.48				5.86
Turlock .....	43	64	19	2.82	46	68	27	2.17
Tracy .....	44	54	29	2.13	47	66	29	2.09
Tejon Ranch House .....				3.27				2.35
Tulare (Agricultural Experiment Station) .....	47	78	24	1.24	50	82	26	.38
Towles .....	37	60	12	13.76	37	63	14	10.10
Tehachapi .....	34	55	12	2.80	35	55	18	1.68
Tehama .....	53	70	29	5.92	49	76	32	1.82
Templeton .....	45	63	20	1.58	47	75	28	.87
Traver .....	46	59	30	1.51	52	65	44	1.05
Tropico .....	49	72	28	.72	48	73	34	.73
Truckee .....	23	44	12	8.06	24	45	—5	10.95
Upper Lake .....	42	67	20	10.43	42	68	25	6.21
Upper Mattole .....	48	73	27	27.56	45	71	28	11.97
Ukiah .....	44	64	22	15.68	44	66	26	9.41
Vacaville .....	45	60	28	8.70	48	73	33	4.50
Ventura .....	50	69	33	.81	50	69	36	.50
Valley Springs .....	48	64	26	6.91	50	69	34	5.86
Vina .....	46	57	29	4.18	48	67	37	2.51
Volcano Springs .....	51	78	28	.00	55	90	33	.00
Westley .....	47	63	32	1.93	49	68	33	1.78
Whittier .....	55	78	32	.65	58	78	40	.55
Williams .....	43	60	26	3.27	47	68	30	1.07
Willows .....	44	60	29	3.65	45	65	30	.95
Winters (near) .....	45	60	30	9.51	48	68	32	4.08
Winters .....	46	60	30	8.07	49	69	34	3.53
Woodland .....	44	58	30	3.99	46	68	31	2.00
Weaverville .....	42	73	17	11.85	44	82	10	5.79
West Butte .....				3.55				1.10
Wheatland .....	44	58	22	5.71	46	70	31	3.82
Wire Bridge .....	44	60	22	9.18	47	68	28	9.07
Walnut Creek .....	43	59	22	5.85	46	70	30	3.79
Winchester .....	46	74	21	.47	48	79	21	.32
West Point .....				10.37				13.43
Washington .....								
Weinrich's Ranch .....				1.05				1.46
Yreka .....	35	54	8	7.59	33	61	1	3.22
Yuba City .....	46	60	32	4.95	49	67	38	2.32
Yerba Buena Lighthouse .....				6.06				2.17
Monthly average for the State .....	44.8	*83	†—22	5.03	46.0	*90	†—15	3.47

\*Highest temperature. †Lowest temperature. A dash (thus —) before a figure indicates the



Continued.

March.				April.				May.				June.			
Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
48	73	33	1.47	53	86	36	1.00	56	85	32	1.40	58	90	46	.75
47	72	30	.85	52	81	27	.98	56	86	33	1.69	55	86	28	1.00
44	72	22	1.06	55	80	28	1.12	57	84	30	4.50	58	90	36	1.11
52	78	31	.60	56	92	33	.53	61	90	35	1.02	63	94	39	.32
51	72	32	.45	56	82	37	.49	59	81	34	1.10	60	86	44	.38
52	82	37	.40	56	80	42	.34	57	77	45	.34				
			.45				.16				.75				.00
			3.54				1.17				1.37				.23
			2.41				.48				1.23				.05
53	82	35	1.69	58	89	41	.04	60	76	44	.15	62	77	47	.00
							1.43								.07
								59	84	37	1.05	62	85	42	1.76
52	80	29	.62				.40					59	72	42	.16
54	85	28	1.15	60	88	32	.10	63	87	38	.56	66	95	40	.00
53	91	24	.89	61	93	30	2.94	62	95	34	1.15	65	99	40	.00
			9.34				.16				1.76				2.55
52	80	25	.20	60	91	34	.03	66	94	36	1.70	67	101	43	1.15
54	82	40	.00	65	87	48	.00	72	90	49	2.00	79	90	54	1.14
			.38				.00				.00				.00
55	92	28	.77	64	102	34	.90	69	104	36	.43	71	106	44	1.18
43	70	14	5.39	52	78	32	2.42	59	93	32	2.06	60	84	38	2.15
42	62	26	1.45	54	75	30	.18	61	80	45	.32	61	89	43	.27
55	78	34	1.00	61	87	41	.50	70	94	52	1.01	73	100	54	.52
53	83	28	.61	59	88	37	.52	60	88	45	1.42	63	90	51	.14
59	76	44	.37	71	85	55	.00	78	97	60	.10	79	90	56	1.14
55	80	38	.90	60	88	40	.04	62	82	50	.34	63	80	55	.00
31	50	—7	2.65	42	64	18	2.15	47	76	21	1.05	48	68	26	T.
49	79	27	1.80	57	87	34	1.46	61	87	34	1.02	62	95	37	1.12
51	78	36	8.45	56	92	38	3.80	58	84	40	2.05	60	90	48	3.09
48	74	26	3.03	54	83	32	2.36	60	88	32	1.21	61	93	36	1.27
53	82	35	1.18	63	89	45	.62	65	95	49	1.55	66	98	55	.84
51	68	33	.27	55	85	37	.17	59	74	41	.50	59	80	42	.00
56	84	35	.91	65	92	40	.95	70	93	40	4.09	73	98	55	1.28
55	76	41	1.41	64	89	39	.89	68	92	45	.96	74	100	55	.51
72	105	38	.00	84	105	55	.00	90	111	70	.00	90	111	73	.00
58	79	38	.11	69	89	55	.04	71	93	51	1.19	71	96	54	.85
59	82	40	.63	63	84	52	.10	66	83	53	.00	69	89	57	.00
54	80	30	.86	63	88	40	.15	69	93	45	1.59	72	99	58	.60
51	75	35	1.03	62	85	48	.40	69	90	50	1.10	71	93	55	.80
55	78	35	1.06	65	85	44	.97	67	92	48	1.46	70	96	54	.52
55	76	35	.73	64	87	44	.60	71	93	47	1.20	74	95	54	.00
51	74	36	.80	63	85	47	.33	66	90	46	1.45	70	96	54	.64
47	78	21	5.54	55	85	25	1.51	61	91	29	3.19				2.20
			.65				.36				2.67				.50
53	78	32	1.09	61	89	38	.66	65	95	39	2.58	66	99	45	.85
51	78	31	2.19	62	86	40	1.27	65	88	42	2.65	67	94	54	1.02
52	79	30	.67	60	89	35	.79	61	93	36	.80	62	98	42	.42
53	89	22	.77	60	96	27	.20	63	93	34	.00	66	100	38	.00
			3.45				3.16				3.63				2.21
			4.64				2.44				3.16				2.15
			.58				.25				1.14				T.
42	72	12	3.32	50	81	24	.10	59	90	24	3.31	61	93	32	.70
57	72	43	.89	65	80	45	.46	67	91	54	2.26	74	92	58	.70
			.42				.65				1.30				.06
51.4	*105	+—7	1.43	59.6	*103	+15	0.70	63.4	*111	+18	1.21	66.0	*118	+25	.68

temperature below zero.

TABLE No. 1—

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.
Anaheim .....	68	89	56	T.	70	108	56	.T	68	102	52
Agnews .....	65	93	46	.00	68	101	47	.00	67	99	43
Arlington Heights .....	75	102	49	T.	75	107	48	.03	73	102	43
Adin .....	70	92	44	1.31	70	100	43	.04	59	87	29
Ager .....	76	104	50	.03	77	106	50	.00	66	96	36
Anderson .....	77	100	64	.18	78	104	62	.60	72	90	39
Antioch .....	76	102	58	.00	76	105	60	.00	74	97	52
Aptos .....	64	85	50	.00	64	85	50	.00	63	90	45
Athlone .....	83	115	65	.00	87	116	60	.00	76	110	49
Auburn .....	80	104	62	T.	82	106	60	T.	74	97	50
Año Nuevo Lighthouse .....				.00				.00			
Bakersfield .....	84	106	74	.00	86	109	65	.00	79	100	54
Beaumont .....	82	105	64	.00	79	105	57	.00	73	104	49
Belmont .....	71	88	58		71	104	58		66	102	53
Berenda .....	87	108	63	.00	87	110	68	.00	79	105	55
Brentwood .....	74	100	59	.00	77	107	58	.00	69	98	50
Brighton .....	83	123	55	.00	80	115	55	.00	73	98	53
Byron .....	77	100	57	.00	76	103	57	.00	71	95	48
Ballast Point Lighthouse .....				.00				.04			
Berkeley .....	61	80	50	.00	63	93	47	.00	64	92	47
Bethany .....	78	100	55	T.	75	106	56	T.	73	97	50
Briggs' Vineyard .....	75	101	50	T.	76	106	52	.00	73	99	48
Barstow .....	85	106	62	T.	84	106	58		76	100	43
Bishop Creek .....	86	103	73	T.	82	101	70	.23	74	94	48
Boca .....	55	90	35	.00	57	100	35	T.	52	92	25
Borden .....	87	108	63	.00	83	110	63	.00	78	106	55
Boulder Creek .....	68	96	50	.00	66	104	46	.00	64	98	40
Chino .....	74	98	58	.00	73	110	54	.00	71	100	44
Crescent City .....	57	70	43	.07	59	81	45	.13	57	80	39
Crescent City Lighthouse .....				.00				.07			
Colusa .....	78	102	51	.00	77	106	53	.00	72	97	45
Cape Mendocino Lighthouse .....				.00				.00			
Cloverdale .....	76	106	52	.00	77	109	52	.00	74	100	47
Covelo .....				.08				.10			
Cedarville .....	70	94	50	.19	71	95	47	.04	58	85	33
Claremont .....	72	97	48	.00	72	103	47	.08	69	95	45
Crafton .....	83	102	60	.00	80	103	50	.08	76	97	54
Castroville .....	62	76	54	.00	66	83	54	.00	62	85	48
Caliente .....	86	106	70	.00	81	103	62	.00	74	98	50
Calistoga .....	76	102	50	.00	76	110	52	.00	71	102	44
Capitola .....	63	86	50		67	95	54		67	86	56
Chico .....	81	105	62	.00	80	110	60	.00	71	106	46
Cisco .....	64	80	46	.00	62	78	46	.00	52	75	28
Colfax .....	77	98	58	.00	84	104	58	.03	69	98	42
Colton .....	78	104	60	.00	76	112	56	.00	68	96	42
Corning .....	87	110	63		84	110	63		78	102	50
Davisville .....	79	100	68	.00	78	108	65	.00	76	97	52
Delano .....	87	105	70	.00	86	105	65	.00	78	97	55
Del Monte .....	64	76	50		60	84	50		64	95	48
Delta .....	84	105	60	.00	78	109	59	T.	69	97	44
Dinuba .....	88	106	75	.00	87	107	72	.00	77	107	53
Downey .....	70	92	58	.00	73	105	58	.00	71	100	52
Dunnigan .....	81	106	60	.00	83	108	60	.00	75	104	52
Dunsmuir .....	76	95	60	.00	74	105	50	.20	63	88	40
Drytown .....	76	103	47	T.	76	107	48	T.	71	99	42
Deep Creek .....				.09				.80			
Evergreen .....				.00				.00			
Engineer's Quarters, L. B. Valley .....				.04				.31			
East Brothers Island L. H. .....				.00				.00			
Elmira .....	80	108	51	.00	79	110	60	.00	77	104	51
Edgewood .....	72	92	54	.00	71	95	57	.46	60	82	42
El Dorado .....	81	102	65	.00	79	105	60	.00	71	98	48

Continued.

Sept.	October.				November.				December.				Annual.			
Precipitation, Inches .....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches .....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches .....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches .....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches .....
.10	65	96	47	.00	56	85	41	.00	53	71	41	5.69	60.6	108	35	7.53
1.02	61	90	39	1.47	56	80	32	.61	50	74	33	4.25	61.8	101	29	6.26
.07	67	100	43	.07	63	95	35	.00	50	74	33	4.25	61.8	107	25	6.26
.13	52	83	27	1.93	46	74	20	.03	29	49	2	3.70				
.00	55	88	32	1.15	45	66	20	.51	34	48	14	3.16				
1.80	57	88	40	2.30	50	79	28	.54	53	71	41	5.69	57.5	104	20	28.11
1.07	63	88	46	.63	57	78	42	.38	49	58	37	8.11	61.7	105	30	20.12
2.00	56	85	40	2.93	51	75	36	.71	47	60	30	13.22	55.5	90	18	37.06
.00	44	85	45	.66	60	80	35	.30	46	60	30	5.62	64.2	116	26	16.79
.67	65	90	50	3.87	61	82	40	1.09	51	72	33	13.56	62.6	106	25	43.49
1.04				1.69				1.00				9.35				30.68
.30	67	90	44	.03	59	78	40	.00	51	67	30	1.43	66.2	109	28	3.36
.42	68	99	45	.00	61	89	38	.00	46	66	34	8.89	63.2	105	27	10.80
	62	72	50		60	75	46		57	70	43		61.0	104	34	
.75	68	94	50	.40	60	80	40	.28	50	65	35	4.94	66.1	110	27	13.97
1.75	61	88	44	1.04	54	79	37	.32	46	58	34	7.86	59.9	107	27	20.93
.03	66	85	50	1.03					48	58	31	7.98		115	24	
1.03	60	88	39	1.02	55	76	34	.26	45	56	30	7.94	59.2	103	26	19.90
.00				.00				.00				3.45				
1.61	59	86	46	3.29	54	74	45	1.35	48	57	37	12.63	55.3	93	31	36.79
1.10	63	88	46	.56	57	80	40	.34	47	58	35	7.93	60.6	106	32	20.55
.98	66	94	54	1.07	64	89	35	.35	52	81	31	9.81	64.6	106	30	25.97
.00	70	96	30	.00	55	85	25	.00	45	62	22	.92	63.5	106	17	1.43
T.	66	90	46	.00	54	81	24	.00	37	59	16	1.18	61.8	103	8	2.95
T.	46	90	25	.61	44	85	5	.00	30	75	00	.00	43.1	100	22	15.34
.80	68	96	50	.42	59	80	38	.30	49	67	33	4.82	64.8	110	24	10.18
2.62	60	86	40	6.70	57	84	32	1.76	54	76	28	30.53	58.8	104	26	78.60
.25	56	93	39	.00	51	89	36	.00	47	68	32	8.22	58.4	110	24	11.11
2.70	54	71	36	5.66	51	75	32	4.74	46	59	32	12.46				70.44
2.86				5.30				5.07				14.30				73.90
.91	63	90	41	.87												
2.33				3.78				2.55				17.80				63.46
1.35	65	95	45	3.27	62	79	44	1.91	50	62	34	18.60	62.3	109	28	54.61
1.77				3.03				2.23				14.89				55.27
.20	51	79	27	1.34	45	68	12	.00	27	46	4	3.82				
.62	64	92	44	.00	60	88	37	.00	50	67	33	7.73	59.2	103	24	13.18
.00	67	95	50	.08	64	89	47	.00	50	70	38	6.43	64.6	103	28	10.97
1.63	59	92	47	1.16	57	76	39	.75	52	65	32	7.04	57.2	92	20	20.67
.60	64	90	48	.20	57	78	38	.25	50	62	36	4.39	64.8	106	29	13.14
1.00	61	92	42	2.65	54	84	32	1.09	49	68	32	15.39	60.8	110	24	52.19
	61	80	40		54	76	40		51	64	36		57.9	95	24	
2.00	64	96	42	2.64	58	90	33	.73	49	66	31	11.08	61.2	110	24	30.61
.70	47	72	30	.90	45	66	20	1.50	32	42	18	21.60	42.4	80	5	71.25
1.00	57	96	42	5.75	59	94	33	.00	42	65	30	24.17	57.9	104	20	
.45	58	95	35	.15	56	92	28	.00	53	78	30	5.70	62.3	112	29	9.65
	65	91	47	.85	60	86	38	.00	51	62	34	10.85	64.7	110	30	
.93	66	89	45	1.01	60	82	35	.35	46	70	35	7.59	62.5	108	30	19.96
.35	66	92	42	.16	58	81	39	.00	48	67	30	1.75	64.9	105	24	4.60
	58	82	40		55	74	40		54	66	40		57.2	95	30	
4.00	60	91	39	7.33	55	72	37	3.30	41	55	30	33.17	61.1	109	23	76.90
.47	66	84	50	.09	56	74	41	.08	51	68	42	3.17	65.4	107	23	8.95
.57	67	100	46	.59	64	94	40	.00	58	88	39	4.10	63.0	105	30	7.75
1.00	64	94	44	1.76	58	84	38	.28	48	66	30	11.22	62.6	108	20	25.65
.20	52	78	40	9.65	45	68	30	2.90	39	48	20	29.30	57.8	105	15	81.58
.97	61	90	40	2.67	57	77	33	1.10	46	58	30	12.47	58.9	107	22	38.90
.49				.30				.00				18.41				28.50
1.11				1.26				.80				7.00				21.70
.52				.38				.00				20.12				31.34
.55				2.10				.25				7.70				14.88
1.44	62	92	40	3.17	57	85	36	.51	49	73	33	12.83	62.9	110	28	33.52
	51	78	31	1.75	44	62	24	.82	32	43	10	7.55	50.5	95	8	
.67	64	94	47	3.52	59	82	35	1.05	46	63	33	14.37	61.5	105	26	49.11



TABLE No. 1—

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.
Eureka	54	64	46	.02	57	79	48	.04	56	71	42
El Verano	71	94	55	.00	68	102	50	.00	68	96	47
Emigrant Gap	68	82	52	.00	68	90	50	.00	55	82	30
Esparto	84	109	59	.00	84	113	60	.00	75	100	51
Exeter	77	104	61	.00	84	106	67	.00	77	99	52
Farmington	75	104	48	.00	73	111	50	.00	68	102	50
Felton	69	98	46	.00	70	110	44	.00	68	106	42
Fernando	72	100	50	.00	72	108	47	.00	69	100	45
Florence	68	85	56	.00	71	91	61	.00	67	94	51
Farallone Islands Lighthouse				.00				.00			
Folsom	80	106	65	.01	79	108	64	.03	73	99	52
Fresno	83	106	56	T.	82	109	55	T.	74	102	48
Florin	78	102	54	.00	72	108	56	.00	73	100	48
Fort Ross				.00				.00			
Fallbrook	68	97	52	.04	69	109	51	.18	66	101	48
Fremontville	66	90	53	.12	67	104	52	T.	66	96	43
Fruto	80	105	70	.00	82	107	63	.00	75	100	50
Greenville	68	98	45	.00	66	103	37	.51	56	92	22
Grass Valley, Nevada County				T.				.03			
Grass Valley, S. Bernardino Co.								.46			
Green Valley											
Georgetown	75	94	56	T.	75	97	54	.20	67	91	39
Gorman's Station				.00				.00			
Galt	80	106	65	.00	81	111	58	.00	73	100	50
Gilroy	68	100	55	.00	67	103	53	.00	67	102	50
Girard	74	94	65	.00	75	95	64	.00	66	85	40
Glen Ellen	69	103	53	.00	69	106	50	.00	66	104	47
Goshen Junction	89	109	60	.00	84	108	65	.00	75	99	55
Haywards	64	85	54	.00	65	102	57	.00	65	90	49
Hollister (S. P. Co.)	67	90	51	.00	99	102	53	.00	64	98	54
Hornbrook	76	99	62	.00	80	100	60	.00	65	90	42
Huron	85	105	65	.00	76	108	65	.00	75	105	50
Henderson's Ranch				.00				.00			
Hueneme				T.				.08			
Holcomb Valley				.03				.86			
Hydesville	58	74	45	.00	63	92	46	.25	58	89	38
Healdsburg	66	94	46	.00	67	110	52	.00	62	94	40
Humboldt Lighthouse				.01				.00			
Independence	79	102	56	.12	77	100	52	.51	69	94	41
Iowa Hill	76	95	65	T.	76	100	62	.51	69	96	44
Indio	96	117	80	T.	90	114	80	.00	88	113	66
Ione	77	105	60	.00	79	108	62	.00	71	97	49
Jackson	73	94	50	T.	73	102	48	T.	66	88	38
Jolon				.05				.05			
Kennedy Gold Mine	76	100	54	.00	77	105	51	.00	70	96	42
Kernville				.00				.01			
Kings City	70	100	50	.00	73	114	48	.00	74	104	40
Keene	78	97	60	.00	78	98	60	.00	67	92	45
Keeler	84	109	68	.11	81	102	58	.00	72	97	52
Kingsburg	86	107	73	.00	82	108	65	.00	73	97	52
Knight's Landing	86	108	64	.00	78	106	58	.00	79	102	50
Lathrop	79	103	64	.00	77	108	61	.00	74	100	52
Laurel	65	96	51	.04	68	105	51	.00	67	101	45
Lemoore	86	105	65	.00	85	108	60	.00	72	100	53
La Lebre Ranch				.00				.00			
Livermore	70	97	52	.00	71	105	50	.00	70	99	50
Los Gatos	65	95	44	T.	68	104	46	.00	68	99	43
Los Alamos				.00				T.			
Lime Point Lighthouse				.00				.00			
Lakeport	76	96	57	.00	78	99	58	T.	69	90	46
Lick Observatory	71	86	56	.02	71	92	55	T.	64	85	35
La Porte	62	84	50	T.	62	88	48	.17	54	83	33

Continued.

Sept.	October.				November.				December.				Annual.			
Precipitation, Inches.....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches.....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches.....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches.....	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches.....
1.84	54	69	39	3.12	51	69	37	2.03	46	60	33	12.31	50.7	79	28	51.28
1.67	60	87	45	3.00	55	77	35	1.53	49	64	29	14.09	58.6	102	27	43.49
1.60	51	71	30	-----	49	64	23	.90	32	43	20	.90	46.7	90	-----	-----
1.45	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
.33	66	91	48	.26	60	92	42	.11	51	72	36	3.21	65.4	106	28	8.96
.75	58	89	40	1.51	55	80	33	.72	47	68	32	7.74	60.3	111	23	25.17
3.10	59	96	36	7.11	58	88	32	.70	52	68	28	24.14	59.7	110	20	64.67
.00	65	96	42	.02	60	92	34	.00	51	66	35	5.82	59.4	108	28	8.35
.31	61	85	54	.00	64	85	42	.00	56	80	42	4.26	61.9	94	30	-----
.55	-----	-----	-----	1.65	-----	-----	-----	.50	-----	-----	-----	9.07	-----	-----	-----	22.59
.56	63	90	43	2.76	56	78	39	.89	48	62	29	11.74	62.2	108	26	33.72
.75	64	92	42	.37	59	82	35	.27	48	63	31	4.09	62.6	109	25	12.48
.80	61	93	40	1.74	57	80	34	.47	47	60	30	8.02	59.6	108	26	-----
1.79	-----	-----	-----	4.15	-----	-----	-----	1.40	-----	-----	-----	20.81	-----	-----	-----	64.90
.38	61	98	45	.06	54	87	37	.00	50	72	35	6.09	57.2	109	30	10.47
.85	62	57	44	.10	55	82	36	.00	52	71	32	4.72	-----	-----	-----	-----
.65	65	90	47	.80	61	85	40	.55	51	78	35	9.75	63.5	107	30	22.03
.37	48	88	20	2.95	39	75	12	1.49	27	49	—	13.39	-----	103	-----	-----
1.01	-----	-----	-----	4.91	-----	-----	-----	1.38	-----	-----	-----	16.55	-----	-----	-----	56.98
.60	-----	-----	-----	.29	-----	-----	-----	.00	-----	-----	-----	24.59	-----	-----	-----	-----
.89	-----	-----	-----	.67	-----	-----	-----	.00	-----	-----	-----	21.64	-----	-----	-----	-----
1.26	59	84	40	6.22	57	78	31	1.53	41	64	29	20.93	56.1	97	15	74.28
.42	-----	-----	-----	.11	-----	-----	-----	.00	-----	-----	-----	5.36	-----	-----	-----	12.97
1.32	64	92	44	1.11	57	80	38	.70	49	61	34	9.29	62.8	111	28	27.87
1.04	61	94	47	1.26	56	85	32	.24	49	65	30	8.44	58.1	108	22	21.22
.40	56	80	44	.24	55	80	35	.15	43	55	30	3.12	55.1	95	11	11.44
-----	59	90	38	6.55	52	80	32	1.45	48	62	31	19.91	58.0	106	25	-----
.04	63	90	47	T.	60	82	36	T.	49	66	29	2.91	65.5	109	22	5.80
1.62	58	80	43	2.48	55	74	41	.78	49	58	38	10.40	56.4	102	32	28.89
.55	62	92	47	1.11	58	84	40	.29	52	60	35	5.06	59.1	102	20	16.12
.00	53	82	36	1.30	43	68	22	.70	35	50	20	2.30	53.9	100	5	14.60
.70	65	90	50	.28	60	90	40	.00	52	70	38	2.41	64.6	108	32	4.12
.47	-----	-----	-----	.00	-----	-----	-----	.00	-----	-----	-----	7.10	-----	-----	-----	-----
.48	-----	-----	-----	.13	-----	-----	-----	.09	-----	-----	-----	3.43	-----	-----	-----	5.89
1.73	54	72	38	2.42	53	72	30	2.10	44	60	25	11.80	52.1	92	23	22.18
1.15	61	90	40	2.43	57	82	32	1.10	44	62	30	16.32	54.2	110	28	50.14
1.69	-----	-----	-----	3.53	-----	-----	-----	2.14	-----	-----	-----	13.86	-----	-----	-----	47.00
T.	62	88	32	.00	55	81	24	.00	38	57	22	1.89	-----	102	9	50.29
.78	61	90	45	4.06	59	83	37	1.48	42	64	32	17.57	57.6	100	20	3.38
.00	79	105	56	.00	70	104	46	.00	55	79	40	-----	72.9	117	23	59.65
.75	63	88	40	2.08	56	76	32	.96	51	68	29	8.64	61.6	108	24	-----
1.10	58	85	40	3.68	55	72	33	1.10	39	51	30	15.50	54.9	102	21	27.61
1.20	-----	-----	-----	.75	-----	-----	-----	.30	-----	-----	-----	8.30	-----	-----	-----	51.63
1.30	61	88	40	3.69	57	76	35	1.40	44	58	30	16.44	58.2	105	22	15.36
.60	-----	-----	-----	.00	-----	-----	-----	.00	-----	-----	-----	5.31	-----	-----	-----	55.25
1.13	63	98	40	.41	61	86	32	.25	50	74	30	4.15	60.1	114	20	10.02
.35	60	87	42	.05	57	80	34	.30	46	62	33	4.59	57.8	98	12	9.27
.00	68	94	43	.00	58	89	36	.00	44	78	32	1.05	61.3	109	19	13.94
.40	68	95	45	.40	60	80	35	.07	48	62	32	3.46	64.8	108	25	1.46
1.10	60	90	40	1.02	52	79	31	.70	45	64	30	12.52	62.2	108	26	9.01
-----	63	90	44	3.18	56	78	35	.70	49	70	30	5.21	61.9	108	28	24.36
.00	60	92	45	4.84	58	85	38	1.68	47	62	35	24.91	56.8	105	24	-----
.48	64	92	41	.29	56	79	35	.00	48	62	30	2.77	63.5	108	23	62.28
.69	-----	-----	-----	.00	-----	-----	-----	.00	-----	-----	-----	5.14	-----	-----	-----	5.86
1.45	61	88	42	1.15	57	79	37	.50	49	67	35	8.56	58.4	105	30	8.35
1.34	59	90	42	2.87	54	71	36	.75	46	58	33	17.77	55.8	104	25	25.09
1.81	-----	-----	-----	.81	-----	-----	-----	.30	-----	-----	-----	4.00	-----	-----	-----	40.20
1.26	-----	-----	-----	1.93	-----	-----	-----	.56	-----	-----	-----	8.61	-----	-----	-----	11.58
.50	61	82	45	1.22	56	72	40	.74	44	57	31	10.70	58.6	99	29	24.18
1.64	56	79	33	2.98	58	77	34	.84	37	50	28	11.90	51.9	92	16	28.96
1.13	48	78	31	8.87	45	72	25	2.82	31	50	12	15.49	-----	-----	-----	43.49

TABLE No. 1—

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.
Livingston	86	112	68	.00	81	114	62	.00	77	104	52
Long Beach	62	85	55	---	69	100	60	---	68	95	50
Los Angeles	67	88	51	T.	70	97	52	.01	69	99	49
Los Baños	84	102	68	.00	82	106	60	.00	71	94	52
Lodi	74	100	50	T.	73	104	50	T.	70	96	43
La Grange	84	112	57	T.	83	114	55	T.	76	104	46
Middletown	75	104	55	.00	75	110	50	.00	67	104	40
Manzana	77	105	60	.00	81	103	57	.10	72	97	38
Mountain View	---	---	---	.00	---	---	---	.00	---	---	---
Mare Island Lighthouse	---	---	---	.00	---	---	---	.00	---	---	---
Mills College	---	---	---	.00	---	---	---	T.	---	---	---
Martinez	66	88	50	.00	64	98	48	.00	61	92	48
Mariposa	79	98	66	.00	79	102	60	T.	70	95	43
Mokelumne Hill	78	---	60	.00	77	---	59	T.	69	---	46
Meadow Valley	65	91	46	.00	63	95	43	1.45	56	87	30
Mojave	84	108	75	.00	89	107	70	.00	76	100	46
Montague	81	92	68	.00	80	101	65	.00	70	88	54
Monterey	60	74	50	.00	62	86	50	.00	66	88	44
Marysville	78	110	52	.00	80	116	59	.00	75	101	52
Menlo Park	68	90	52	.00	67	98	40	.00	66	98	49
Merced	83	107	62	.00	81	108	58	.00	72	103	50
Modesto	82	104	68	.00	87	107	65	.00	79	100	60
Morse's House, Little Bear Val.	---	---	---	.02	---	---	---	.74	---	---	---
Mendota	84	108	69	.00	84	111	59	.00	76	100	53
Mammoth Tank	96	115	85	T.	95	110	80	.06	88	108	65
Milton	77	102	60	T.	78	111	61	T.	75	100	50
Napa	69	92	54	T.	69	102	51	.04	70	95	47
New Almaden	69	96	56	.00	71	106	55	.00	69	100	52
Newark	69	90	58	.00	68	98	56	.00	70	98	56
Newcastle	78	101	50	.00	77	105	52	T.	72	97	42
Newhall	79	107	59	.00	77	110	52	.00	72	106	50
Newman	88	111	70	.00	83	116	55	.00	76	105	55
Niles	67	99	53	T.	69	108	60	.00	70	105	53
Norwalk	73	96	60	.00	73	108	59	.00	70	99	50
Nevada City	69	90	47	.00	69	94	46	T.	62	86	33
Nordhoff	---	---	---	---	---	---	---	---	---	---	---
Neenach	81	104	65	---	80	110	64	---	77	97	66
Needles	94	113	73	.09	92	110	70	.14	83	103	54
Oroville	72	102	60	.00	82	107	58	.00	74	100	50
Orangevale	79	107	50	T.	76	107	50	.00	73	96	44
Oakland	59	82	50	.01	59	90	45	.00	61	91	49
Oleta	72	95	56	T.	72	100	53	T.	64	92	42
Oakdale	80	105	78	.00	78	108	59	T.	71	101	48
Ontario	75	102	52	.00	75	106	50	T.	73	100	44
Ogilby	98	119	85	.00	97	114	80	.00	89	112	64
Orland	88	113	70	.00	84	116	65	.00	76	103	53
Pajaro	63	94	41	.00	63	101	40	.00	62	94	37
Palm Springs	105	118	90	.00	96	117	84	.00	86	105	54
Paso Robles	71	102	44	.00	73	105	40	.50	67	98	42
Placerville	71	98	44	T.	72	98	46	.10	61	90	34
Pleasanton	69	99	44	.00	69	104	42	T.	65	98	37
Pomona	78	102	50	.00	79	110	52	.00	74	100	48
Port Los Angeles	62	70	55	.00	66	80	59	.00	66	78	56
Porterville	89	108	74	.00	87	108	70	.00	76	100	51
Puenta	74	95	54	.00	73	106	58	.00	72	98	54
Palermo	82	109	58	T.	79	111	51	.00	71	103	42
Petaluma	66	98	56	.00	67	110	52	.00	67	98	52
Point Lobos	55	67	48	T.	57	81	48	T.	53	82	49
Pasadena	71	96	45	.05	72	106	48	.05	71	96	47
Poway	---	---	---	.00	65	---	54	.06	64	---	52
Point Reyes Lighthouse	---	---	---	.00	---	---	---	.00	---	---	---
Point Arena Lighthouse	---	---	---	.00	---	---	---	.00	---	---	---



Continued.

Sept.	October.				November.				December.				Annual.			
Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches
.70	66	93	46	.67	61	80	37	.30	49	65	35	5.24	66.0	114	28	15.83
.73	65	94	45	.02	59	81	43	.00	55	70	35	4.62	59.0	100	28	7.51
.75	61	88	48	.46	53	69	34	.13	46	59	30	4.08	63.2	106	23	10.34
1.78	62	87	42	2.14	55	76	35	.73	47	60	31	9.27	59.5	104	24	30.19
.67	66	95	42	.85	60	87	37	.60	49	60	34	7.60	63.8	114	25	27.28
1.28	58	94	37	3.18	52	84	30	1.92	43	64	26	20.52	57.5	110	24	57.28
.49	62	90	37	.00	57	76	34	.00	41	58	27	3.60	57.8	105	14	5.65
1.42				1.37				.37				8.35				20.39
.61				1.00				.61				9.61				22.66
1.97				2.88				1.01				12.90				37.31
.95	58	85	42	1.65	52	70	40	.64	46	56	32	12.02	55.1	98	26	27.31
2.09	60	90	38	1.96	52	79	35	.73	43	63	30	13.36	57.8	102	22	
1.18	60		46	4.34	56		39	1.12	44		36	14.31	57.6		24	46.54
1.17	50	81	30	6.54	46	69	25	2.26	30	44	9	24.00	46.2	95	4	85.49
.00	68	90	44	.00	58	81	35	T.	45	60	30	3.68	63.4	108	16	4.97
.00	62	84	33	1.00	47	68	23	.54	35	52	15	1.25	57.0	101	10	13.51
	58	84	40	1.64	55	72	38	.32	52	64	34	5.87	56.2	88	26	
.62	62	86	47	1.91	54	73	40	.80	51	63	29	9.13	61.8	116	28	18.24
1.65	61	98	42	1.51	56	75	38	.46	49	60	33	9.65	57.8	98	30	22.24
.72	63	90	43	.88	56	80	35	.15	47	58	30	4.74	61.5	108	22	15.50
1.20	68	93	55	.61	63	81	44	.28	48	67	34	5.42	65.1	107	27	16.00
.67				.47				.00				26.77				46.43
.88	62	89	47	.09	56	78	40	.00	49	63	32	3.65		111		
.36	77	100	50	T.	66	92	40	.00	51	68	37	1.22	73.8	115	27	1.64
1.51	64	93	44	1.77	61	80	43	1.23	48	56	32	10.53	61.7	111	27	35.21
1.23	62	91	45	1.93	56	80	37	1.34	50	61	37	9.27	59.3	102	30	29.05
1.21	62	91	49	1.69	58	82	41	.42	50	65	37	10.83	59.1	106	26	24.09
1.36	63	89	48	1.56	57	72	40	.73	48	66	36	7.21	59.3	98	32	23.45
.78	62	88	40	3.38	58	78	36	1.25	42	54	29	12.56	58.8	105	23	39.01
.80	64	100	42	.00	58	93	28	.00	49	71	28	7.59	61.5	110	19	10.96
.80	64	88	50	.35	56	75	35	.00	46	65	32	5.28	64.4	116	25	10.45
1.42	63	96	50	1.49	59	82	42	.84	52	64	39	9.45	59.8	108	35	29.61
.40	64	96	50	.00	57	84	38	.00	52	72	34	3.93	61.3	108	20	6.31
1.21	55	81	35	4.83	52	78	29	1.38	40	61	23	20.61	52.8	94	12	61.41
					63	96	32	.00	49	73	31	6.39			12	
	63	93	32		55	83	30		38	52	32			110	14	
.21	74	99	48	.60	62	88	40	.00	54	69	35	1.46	71.5	113	26	3.27
.86	66	93	42	2.40	61	88	35	1.05	47	71	30	11.48	61.8	107	27	29.92
.59																
1.66	59	84	45	2.64	56	73	42	1.34	49	60	39	11.78	59.6	91	29	34.19
1.38	56	86	40	4.50	51	76	33	1.37	42	55	27	16.55	54.8	100	20	47.03
.54	61	91	38	1.16	51	78	30	.67	45	60	30	7.71	59.2	108	20	25.84
.30	68	100	43	.03	61	88	38	.00	52	70	32	7.71	62.0	106	25	12.14
.64	81	101	61	.00	72	92	54	.00	55	76	41		75.8	119	33	
.80	64	94	45	.72	59	88	38	.43	45	56	34	7.89	63.5	116	29	18.08
.00	58	95	34	2.00	56	87	30	.75	54	78	30	9.17	56.6	101	26	23.44
.00	76	104	55	.00	68	98	42	.00	54	79	40	4.25	75.3	118	25	4.25
1.13	58	88	34	.33	55	81	30	.09	46	64	24	6.14	57.5	105	19	11.51
1.52	65	83	33	3.93	50	74	26	1.06	41	58	23	18.49	53.4	98	16	60.68
1.45	58	89	34	1.21	52	77	28	.55	51	72	33	8.67	59.0	107	22	24.35
.44	67	99	46	.04	62	91	40	.00	54	78	34	8.48	62.9	110	24	13.27
.42	62	75	53	.03	56	63	49	.04	56	62	47	3.73	58.2	80	42	6.52
.43	61	90	45	1.72	59	83	40	.04	51	65	33	3.13	66.2	108	23	10.21
.40	66	97	48	.00					54	68	38	4.85		106	28	
.83	62	91	37	2.46	54	70	34	1.07	46	63	26	10.20	60.9	111	22	25.90
1.61	61	90	45	1.72	54	82	36	.98	49	64	31	10.51	58.2	110	28	29.37
1.40	57	83	50	1.36	56	72	45	.68	49	58	40	9.21	52.7	83	36	23.33
.73	65	94	44	.02	61	87	37	.01	52	69	38	5.89		106	28	
T.	60		42	T.				.00	50	60	36	3.06		23		7.54
2.64				2.42				1.04				9.50				32.43
1.11				2.20				1.15				14.32				41.87

TABLE No. 1—

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.
Piedras Blancas Lighthouse				.15				.16			
Point Pinos Lighthouse				.13				.00			
Pigeon Point Lighthouse				.00				.00			
Point Montara Lighthouse				.00				.00			
Point Benito Lighthouse				.00				.00			
Point Fermin Lighthouse				.00				.00			
Point Hueneme Lighthouse				.00				.16			
Point Conception Lighthouse				.00				.00			
Point Sur Lighthouse				.00				.03			
Roe Island Lighthouse				.00				.00			
Represa	76	98	52	.00	74	103	50	T.	69	92	39
Rio Vista	75	104	52	.03	75	106	52	T.	72	98	47
Riverside	75	105	46	.00	74	108	46	.21	72	104	41
Reedley	88	104	78	T.	86	108	68	.00	76	98	48
Rosewood (Hunter's P. O.)	80	105	68	.01	79	110	53	T.	71	102	47
Redding	82	102	59	T.	82	109	57	.74	74	97	47
Redlands	80	104	66	.00	78	108	60	.69	71	100	50
Ravena	84	106	62	.00	78	105	61	T.	70	98	48
Red Bluff	83	106	61	.02	82	110	60	T.	75	100	48
Rocklin	83	104	65	.00	80	109	63	.00	73	100	52
Sacramento	74	104	51	T.	75	108	50	T.	72	98	46
Salinas	64	85	54	.00	65	94	52	.00	63	87	50
Salton	100	119	82	.23	99	117	78	.00	91	115	72
Sanger Junction	86	106	68	.00	84	110	70	.00	78	100	60
San Ardo	62	104	50	.00	70	115	47	.00	67	108	44
San Gabriel	73	98	58	.00	75	102	60	.33	73	102	54
San Luis Obispo				.05				.00			
San Luis Obispo Lighthouse				.00				.10			
Saticoy				.00				.00			
St. George's Reef				.00				.00			
San Francisco	56	76	48	T.	59	91	49	.00	63	94	49
San José	64	92	41	T.	66	98	42	.00	63	94	37
San Mateo	67	89	56	.00	68	99	57	.00	70	90	54
San Miguel	77	102	55	.00	76	106	55	.00	69	99	49
San Pedro	70	83	61	.00	73	94	63	.00	71	96	59
Santa Ana	74	93	60	.00	75	110	60	.00	70	100	58
San Diego	65	77	57	.00	67	90	55	.04	66	90	52
Santa Barbara	63	78	52	.12	66	90	54	T.	66	94	50
Santa Barbara Lighthouse				.03				.00			
Santa Cruz Lighthouse				.01				.00			
Santa Cruz	64	89	46	.01	65	101	46	T.	65	98	44
Santa Margarita	68	100	51	.00	68	100	50	.00	63	100	38
Santa Monica	66	74	58	.00	68	84	60	.00	67	83	52
Santa Paula	62	86	44	.12	65	89	46	.02	64	96	42
Santa Rosa	68	95	52	.00	68	106	52	.00	66	103	46
Selma	84	105	70	.00	82	105	65	.00	73	95	50
Shingle Springs	72	98	65	.00	79	108	60	.00	77	101	55
Sims	73	99	50	T.	71	102	48	.36	62	93	34
Sisson	70	98	43	.00	69	100	40	.00	58	90	35
Soledad	65	90	50	.00	65	106	52	.00	64	100	44
South Vallejo	64	89	53	.00	64	92	52	.00	68	92	50
Spadra	75	100	56	.00	74	110	58	.00	72	106	50
Stockton	73	99	51	.00	73	103	50	.00	70	94	47
Suisun	68	103	55	.00	69	100	40	.00	73	103	54
Summit	63	78	50	.00	62	78	49	.00	52	76	28
Susanville	72	95	59	.00	74	96	52	.20	60	82	36
Shasta Springs	67	94	44	.01	66	94	42	.22	60	90	30
Sonoma	61	94	47	.00	62	102	48	T.			
San Rafael				.00				.00	60	96	32
Sutter Creek	72	98	46	.00	73	102	45	T.	67	94	36
Santa Clara	67	99	41	.00	70	108	44	.00	68	104	41
Santa Clara (near)	64	88	49	T.	64	98	55	.00	66	94	44

Continued.

Sept.	October.			November.			December.			Annual.		
Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches
1.70				1.96				.84				23.44
1.12				.96				.50				20.68
1.29				1.46				.56				18.30
1.29				1.81				.97				27.78
1.72				3.41				.94				38.51
.18				.18				.00				4.89
.53				.66				.03				
1.00				.23								
1.46				1.10				.41				19.97
.80				.78				.40				17.69
.65	60	84	38	2.75	54	76	32	.90	40	58	27	32.21
1.28	62	89	41	1.91	57	78	37	.53	46	58	31	25.49
.00	65	104	37	.06	62	98	32	.00	53	77	29	7.84
.50	66	90	44	.40	59	80	38	.45	50	66	36	11.35
1.64	59	93	38	1.42	50	79	27	.79	43	60	22	33.07
1.32	63	93	42	4.15	59	85	38	1.01	44	62	31	42.71
.00	67	95	52	.07	62	87	42	.00	53	74	38	11.91
.30	64	92	39	.00	61	85	38	.00	48	62	31	8.15
1.11	64	95	43	.89	59	87	39	.95	45	62	32	26.98
.62	65	94	49	2.05	57	78	39	1.00	49	69	29	31.78
.88	63	92	43	1.06	58	78	35	.48	47	58	30	22.61
.95	56	92	44	1.66	53	80	38	.45	50	68	32	18.63
.00	83	110	56	T.	68	94	52	.00	54	74	39	1.53
.38	70	95	50	.42	64	87	35	.40	48	75	30	13.10
.65	59	95	39	.25	57	90	34	.02	47	65	33	7.92
.66	67	98	47	.00	59	92	38	.00	53	72	38	7.70
1.81				1.37				.40				19.21
1.75				1.21				.45				17.96
1.02				.24				.00				8.07
1.49				2.86				2.90				39.94
1.05	60	89	49	1.73	59	79	46	.88	50	61	40	24.32
1.35	57	87	35	1.00	52	77	27	.75	46	60	22	20.63
1.75	62	87	49	3.03	58	77	42	.72	52	62	36	34.28
.47	61	96	41	.69	57	84	31	.21	53	65	28	8.08
.22	66	90	54		60	81	46	.00	58	71	42	
.22	69	98	50	.00	58	78	40	.00	54	68	40	7.06
.01	63	87	45	T.	57	78	45	.00	59	70	41	4.35
1.36	63	92	48	.68	57	78	44	.19	54	69	42	10.09
1.19				.37				.08				9.17
2.32				2.34				.42				35.93
2.77	61	94	42	3.59	59	83	39	.40	54	70	35	41.48
2.22	59	90	34	.73	53	82	28	.33	48	68	25	21.75
.60	63	81	46	.10	53	64	38	.00	51	63	37	6.73
1.00	59	95	40	.30	51	85	32	.00	47	67	33	8.27
1.50	60	87	47	2.55	54	77	36	.89	51	64	29	37.00
.40	64	92	45	.35	57	80	37	.05	48	65	31	8.47
.00	60	81	42	3.55	54	73	32	.99	46	62	30	43.22
2.80	65	91	51	1.65								
	55	79	30	3.65	44	70	19	1.70	32	48	12	
.79	61	92	42	.71	57	86	32	.20	50	66	32	8.32
	60	79	50	1.49	55	65	48	.50	50	65	38	
.50	66	100	45	.00	58	90	35	.00	52	67	32	
1.76	62	87	44	1.32	56	76	36	.56	46	58	32	22.34
.95	64	94	48	1.28	58	84	36	.53	49	66	34	24.82
.50	46	65	31	2.90	42	61	11	1.00	37	42	10	69.75
.30	53	77	32	1.96	46	68	25	.40	32	48	7	26.75
1.94	52	81	30	7.51	47	74	20	2.95	34	50	12	59.06
1.32				2.22				1.52				36.55
1.61	54	86	28	4.24	56	78	37	.72	47	72	29	44.40
.92	56	86	34	2.95	51	74	28	1.10	39	55	24	38.66
1.18	65	96	38	1.10	62	88	34	.42	47	68	28	17.95
.99	59	86	32	2.07	50	77	38	.55	49	63	30	20.41



TABLE No. 1—

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.
San Miguel Island .....	58	74	47	T.	60	89	50	.50	62	88	50
Snedden's Ranch .....				.00				1.15			
Squirrel Inn .....								.62			
Tunnel No. 2 .....								.33			
Sweetwater Dam .....	68	90	51	.00	69	91	52	.00	68	98	49
San Leandro .....											
Stanford University .....	66	93	47	T.	68	101	46	.00	67	98	48
Summerdale .....				T.				.01			
Santa Maria .....	63	80	48	.06	66	92	50	T.	67	96	46
San Bernardino .....	75	102	48	T.	75	102	41	.16	70	99	42
San Jacinto .....	77	105	48	.13	76	105	46	.03	72	103	39
Trinidad Head Lighthouse .....				.00				.00			
Turlock .....	78	109	48	T.	77	110	46	.04	71	102	38
Tracy .....	72	98	60	.00	74	104	58	.00	73	96	58
Tejon Ranch House .....				.00				.00			
Tulare (Agri. Experim't Stat'n) .....	84	112	54	.00	84	118	54	.00	72	108	42
Towles .....	74	90	56	.00	71	94	55	.00	62	86	39
Tehachapi .....	78	90	69	.00	76	90	65	.00	71	88	58
Tehama .....	89	106	65	.00	83	108	67	.25	75	97	57
Templeton .....	69	105	54	.00	71	105	52	.00	63	102	45
Traver .....	93	107	76	.00	87	106	70	.00	76	100	65
Tropico .....	66	90	54	.00	69	102	56	T.	69	100	52
Truckee .....				.00	66	92	50	.00	58	80	32
Upper Lake .....	75	101	53	.00	75	107	50	T.	69	103	38
Upper Mattole .....	68	95	50	.00	67	102	50	.00	67	99	51
Ukiah .....	71	99	48	T.	72	103	46	.00	66	96	40
Vacaville .....	78	106	58	.00	76	110	59	.00	73	102	52
Ventura .....	60	77	47	.13	65	88	49	T.	64	92	47
Valley Springs .....	82	106	64	.00	82	103	65	.00	75	96	46
Vina .....	88	104	61	.00	86	110	68	.00	79	103	50
Volcano Springs .....	98	123	80	.00	99	120	80	T.	88	116	53
Westley .....	83	104	65	.00	81	108	64	.00	78	99	53
Whittier .....	72	98	57	.00	78	109	65	.00	74	103	57
Williams .....	84	105	64	.00	82	109	58	.00	71	101	48
Willows .....	85	103	65	.00	83	108	60	.00	76	100	53
Winters (near) .....	78	104	60	.00	82	108	62	.00	77	99	53
Winters .....	84	106	67	.00	83	110	62	.00	75	100	52
Woodland .....	77	106	60	.00	77	110	50	.00	71	100	50
Weaverville .....				.11				.03			
West Butte .....				.00				.00			
Wheatland .....	78	108	53	T.	77	108	52	.14	73	102	44
Wire Bridge .....	*0	100	61	.00	78	103	58	T.	71	96	44
Walnut Creek .....	73	105	49	.00	72	109	50	.00	71	103	45
Winchester .....	78	112	44	.00							
West Point .....				.04				.00			
Washington .....				.00				.37			
Weinrich's Ranch .....				.00				.00			
Yreka .....	71	99	42	.77	72	101	45	.41	61	92	32
Yuba City .....	84	105	64	T.	81	106	64	.00	76	93	58
Yerba Buena Lighthouse .....				.00				.00			
Monthly average for the State .....	74.9	*123	†35	.02	74.8	*120	†35	.05	69.7	*116	†22

\* Highest temperature. † Lowest temperature. A dash (thus — before a figure indicates the

Continued.

Sept.	October.				November.				December.				Annual.				
Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	
.79	61	90	50	.11	57	74	43	.30	54	66	42	4.89		90			
.75				.00				.00				6.99				12.21	
.50				.34				.00				16.38					
.32				.34				.00				14.96					
.00	64	95	46	.04	58	88	39	.00	54	75	36	3.02	59.6	98	32	6.01	
1.95	62	90	50	2.69	59	85	44	1.07	55	72	40	11.64					
2.40	60	88	43	1.19	56	78	37	.40	48	59	32	8.22		101			
1.82				2.63				1.00				17.29					
1.05	65	96	46	.68	58	83	36	.07	54	74	36	3.86		96	26		
.37	65	96	38	.15	60	90	34	.00	50	70	30	7.25	61.1	102	23	12.18	
.04	66	100	36	.04	60	90	34	.00	49								
1.65				2.89								9.86					
.89	62	91	39	.63	55	83	31	.36	46	59	29	5.38	60.2	110	19	15.50	
1.28	64	87	48	.43	57	78	36	.36	47	57	32	4.46	62.3	104	29	13.92	
.40				.41				.22				2.41				9.44	
5.42	65	98	36	.18	61	94	32	.20	51	76	28	2.44	64.4	118	24	8.14	
1.20	55	82	38	5.60	53	78	28	1.60	38	59	24	13.88	53.4	94	12	58.16	
	64	80	50	.00	60	80	37	.00	40	60	27	3.75	56.3	90	12		
	68	96	50	2.37	63	88	38	.00	53	68	32	7.25	66.0	108	29		
.90	57	92	58	1.09	55	83	31	.11	48	64	28	6.03	57.5	105	20	13.27	
.50	60	78	56		69	80	60	.00	48	58	40	2.96	68.2	107	30		
.97	64	90	48	.00	59	86	40	.00	53	76	36	4.82	59.8	102	28	8.52	
.13	47	70	24	1.12	39	66	10	.60	26	38	4	13.95		92	12	40.66	
.53	61	96	38	2.05	56	85	31	1.13	43	65	25	11.62	57.7	107	20	37.37	
2.75				6.12	58	83	34	6.00	49	66	32	27.77		102	27	99.56	
.77	58	90	35	2.45	53	80	30	1.37	44	61	24	15.47	56.2	103	22	53.02	
1.13	64	94	46	3.33	60	84	40	.63	49	64	34	12.80	61.7	110	28	35.28	
.95	61	90	44	.10	54	75	39	T.	53	68	39	3.13	56.8	92	33	6.56	
1.00	65	87	47	2.04	65	83	37	1.20	49	63	33	10.51	65.0	106	26	34.75	
1.05	66	91	47	1.13	58	83	39	.65	47	60	33	8.28	64.9	110	29	21.57	
	90	109	74	1.08	73	96	44	.00	59	79	38	1.00	79.1	123	28		
.80	64	86	47	.65	59	79	40	.23	50	59	30	4.67	65.0	108	30	12.25	
T.	71	100	57	T.	61	95	40	.00	56	68	40	5.03	65.2	109	32	6.96	
1.18	65	92	46	.91	57	84	36	.18	47	62	30	7.27	62.8	109	26	17.08	
.75	64	92	48	.98	60	81	40	.07	49	62	35	9.39	63.2	108	29	19.12	
2.29	67	90	48	2.12	60	82	42	.41	47	64	35	16.04	63.4	108	30	38.46	
.85	61	90	37	1.39	55	84	38	.44	45	75	34	14.70	63.5	110	30	31.51	
.82	67	93	44	1.01	58	81	38	.85	48	60	38	10.69	61.5	110	30	22.58	
1.18				3.18				1.17				13.43			10	49.18	
.94				1.06				.48				8.18			106	29	19.46
.47	64	93	40	1.62	58	84	35	.77	46	62	30	10.75	60.9	108	22	28.46	
.74	61	88	41	2.60	55	78	33	1.17	46	57	26	13.31	60.6	103	22	43.20	
1.50	60	92	39	2.23	56	81	33	.50	45	61	30	10.04	58.4	109	22	26.59	
					60	96	26	.00	51	73	26	4.98			21		
.95				4.73				5.20				16.28				63.45	
1.00				4.93				1.44				20.19					
.40				.00				.01				3.96				8.85	
.01	54	87	28	1.60	45	68	21	.57	32	53	4	5.40	50.4	101	1	27.00	
.80	64	82	50	1.99	53	66	38	.86	46	60	34	11.15	63.5	106	32	26.38	
1.10				1.30				1.12				7.60				21.78	
.86	61.9	*110	+20	1.63	56.2	*104	+5	.61	47.2	*80	+—6	9.42	60.0	*123	+—22	25.11	

temperature below zero.

TABLE No. 2.—*Annual and Monthly Climatic Data of the California Weather Service, for Rainfall for each Month,*

Compiled from the records of the Voluntary Observers throughout the

Names of Stations of Observation.	January.				February.			
	Clear Days.	Fair Days.	Cloudy Days.	Rainy Days.	Clear Days.	Fair Days.	Cloudy Days.	Rainy Days.
Arlington Heights	22	5	4	7	19	6	3	2
Berkeley	11	6	14	12	14	3	11	11
Bethany	6	15	10	13	10	9	9	9
Crescent City	4	9	18	21	7	9	12	14
Chino	24	2	5	4	14	5	9	5
Claremont	16	9	6	6	11	7	10	5
Eureka	3	4	24	19	10	4	14	13
Evergreen	10	15	6	13	12	10	6	11
Folsom	7	13	11	11	14	2	12	12
Fresno	7	9	15	12	9	10	9	8
Fallbrook	21	7	3	3	16	7	4	4
Georgetown	14	4	13	12	16	2	10	10
Hydesville	2	9	20	18	13	2	13	10
Independence	22	6	3	3	19	6	3	3
Tower Hill	9	6	16	18	12	5	11	12
Kennedy Gold Mine (Jackson)	15	5	11	12	17	1	10	10
Lakeport	4	13	14	14	12	5	11	11
Lick Observatory	13	8	10	16	14	3	1	15
Lodi	5	19	7	7	8	12	8	11
La Grange	8	16	7	10	13	7	8	7
Los Gatos	11	17	3	9	11	9	8	12
Los Angeles	21	6	4	5	11	14	3	3
Middletown	13	0	13	10	14	0	14	10
Meadow Valley (near)	10	9	12	17	12	3	13	10
Milton	8	14	9	13	11	7	10	8
Mariposa	10	9	12	12	7	11	11	9
Mokelumne Hill	10	8	13	12	14	3	11	12
Nevada City	15	4	12	11	13	3	12	10
Newcastle	5	11	15	10	11	5	12	10
Napa City	8	10	13	12	13	10	5	9
Niles	12	1	18	13	13	7	8	7
Needles	22	5	4	0	11	8	9	1
Oakland	17	6	8	14	15	6	7	13
Ontario	16	9	6	6	12	8	8	4
Palermo	11	13	7	9	16	4	8	8
Placerville	9	5	17	14	10	5	13	12
Petaluma	13	7	10	13	12	4	12	10
Point Reyes	7	1	23	13	10	0	18	12
Point Lobos	14	3	14	13	13	4	11	12
Paso Robles	12	11	8	6	13	6	9	4
Redding	9	12	10	11	12	7	9	12
Red Bluff	7	15	9	14	9	11	8	10
Rosewood (Hunter's P. O.)	6	16	9	5	12	7	9	11
Rio Vista	3	12	16	8	10	6	12	12
Riverside	16	15	0	5	19	7	2	3
Shasta Springs	6	11	14	7	1	15	12	8
Sacramento	8	12	12	8	13	7	8	9
San Francisco	9	12	10	14	13	4	11	12
Stockton	7	15	9	8	14	6	8	8
San José	14	9	8	11	13	5	10	11
Santa Cruz	20	8	3	8	16	0	12	11
Santa Barbara	24	1	6	5	18	5	5	4
San Bernardino	22	3	6	5	17	7	4	3
Sweetwater Dam	19	12	0	2	15	13	0	4
San Diego	14	15	2	4	15	10	3	5
Turlock	7	7	17	13	13	1	14	11
Tulare (near)	8	10	13	9	9	12	7	6
Ukiah	11	6	14	15	11	9	8	13
Vacaville	11	12	8	12	12	8	8	10
Ventura	19	5	7	4	20	5	3	2
Wheatland	9	3	19	9	15	2	11	11
Winters (near)	17	2	12	10	16	0	12	9
Wire Bridge (Auburn P. O.)	16	2	13	5	18	0	10	12
Yreka	5	14	12	10	8	15	5	10
Yuba City	8	15	8	10	10	13	5	11
Monthly and annual averages	12	9	10	10	13	6	9	9



*the Year 1894, showing the Clear Days, Fair Days, Cloudy Days, and days 0.01 or more of and for each Year.*

State; also including the regular United States Weather Bureau Stations.

March.				April.				May.				June.			
Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..	Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..	Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..	Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..
18	6	7	4	22	7	1	1	7	22	2	5	16	14	0	0
12	9	10	6	20	5	5	2	13	9	9	7	13	14	3	3
11	10	10	4	17	10	3	1	10	13	8	5	18	8	4	2
5	12	14	19	13	9	8	11	12	13	6	6	9	13	8	9
20	6	5	3	14	8	8	3	12	4	0	1	30	0	0	0
10	13	8	5	13	9	8	3	12	13	6	3	25	1	4	0
6	8	17	18	9	10	7	12	10	14	7	8	5	15	10	9
20	5	6	8	22	6	2	2	14	14	3	6	21	3	6	4
12	14	5	9	17	11	2	2	10	18	3	7	17	10	3	5
12	14	5	5	20	7	3	3	15	13	3	4	21	3	6	4
16	10	5	8	18	7	5	3	21	6	4	3	26	3	1	0
15	8	8	6	13	7	5	4	18	8	5	7	23	1	6	6
9	15	7	11	15	8	7	7	14	17	0	5	4	25	1	8
20	9	2	1	24	6	0	1	23	2	1	3	28	2	0	3
12	6	13	11	17	6	7	3	16	5	10	10	14	8	8	8
14	8	9	7	22	4	4	3	16	8	7	7	19	4	7	6
10	11	10	6	18	6	6	3	14	7	10	6	14	9	7	6
12	15	4	14	21	4	5	5	16	8	7	10	19	4	7	8
12	16	3	3	20	9	1	2	19	9	3	7	20	8	2	5
7	19	5	4	21	8	1	2	13	13	5	5	20	8	2	3
24	4	3	4	25	1	4	3	17	9	5	6	23	3	4	3
12	11	8	3	10	14	6	2	5	20	6	3	10	20	0	0
11	0	20	4	17	4	9	2	18	0	13	6	20	0	10	2
10	2	19	11	16	4	10	4	12	9	10	6	11	10	9	6
12	13	6	4	13	12	5	3	14	12	5	6	16	12	2	5
8	19	4	6	14	13	3	3	17	11	3	7	18	7	5	6
16	2	13	7	24	1	5	2	17	5	9	5	18	4	8	6
15	3	13	10	22	4	4	2	17	11	3	6	18	3	9	5
14	5	12	5	18	8	4	2	13	9	9	8	15	8	7	3
12	13	6	8	22	4	4	2	12	12	7	5	15	12	3	5
9	0	22	8	22	0	8	2	17	2	10	5	20	1	9	5
18	6	7	2	20	8	2	0	20	6	5	0	28	2	0	0
16	6	9	9	24	5	1	3	17	3	11	9	17	8	5	5
15	10	6	4	20	4	6	3	24	17	0	3	21	7	2	0
14	10	7	4	23	2	5	3	21	1	9	9	23	0	7	2
7	6	18	8	16	5	9	4	13	6	12	6	14	8	8	7
15	6	10	5	21	4	5	3	12	15	14	8	25	2	3	5
8	4	19	6	15	6	9	4	8	0	23	7	10	4	16	4
12	10	9	9	6	20	4	3	8	14	9	6	5	18	7	5
14	13	4	2	22	3	5	2	17	9	5	3	25	4	1	2
10	7	14	10	19	5	6	2	19	4	8	7	14	9	7	4
10	12	9	13	19	11	0	3	18	7	6	9	22	8	0	7
6	23	2	11	10	20	0	2	6	24	1	10	3	27	0	8
7	14	10	6	12	9	5	1	21	2	8	5	20	4	6	4
21	5	5	3	19	10	1	3	24	5	2	1	28	2	0	1
6	9	16	7	14	5	11	11	18	8	5	3	6	16	8	3
12	10	9	7	19	7	4	2	15	8	8	7	16	8	6	3
12	11	8	6	20	7	3	4	11	8	12	6	13	7	10	5
13	11	7	2	19	9	2	1	17	12	2	6	21	5	4	3
15	12	4	7	24	5	1	3	16	8	7	7	21	5	4	4
17	8	6	6	24	3	3	3	13	2	16	8	19	5	6	4
17	6	8	2	16	12	2	2	11	11	9	4	21	6	3	0
15	11	5	3	19	10	1	3	20	6	5	4	23	5	2	0
13	16	2	4	15	15	0	1	13	18	0	1	22	8	0	0
15	8	8	5	17	8	5	2	14	10	7	2	23	5	2	1
14	11	6	5	18	10	2	2	16	13	2	6	20	5	5	3
12	12	7	3	20	7	3	1	14	15	2	2	20	9	1	3
7	13	11	8	15	12	3	3	16	6	9	7	16	11	3	6
12	16	3	9	19	11	0	2	15	15	1	7	18	12	0	5
17	6	8	2	16	12	2	2	2	20	9	4	15	11	4	0
12	6	13	7	16	9	5	2	19	2	6	7	17	7	6	4
22	5	4	3	25	3	2	2	22	7	2	6	22	7	1	4
16	5	10	8	23	3	4	2	18	3	10	8	22	2	6	5
5	23	3	12	10	20	0	3	10	15	6	10	6	24	0	6
15	12	4	5	16	12	2	2	19	11	1	8	22	8	0	4
13	10	8	7	18	8	4	3	15	10	6	6	18	8	4	4

TABLE No. 2—

Names of Stations of Observation.	July.				August.				Sept.
	Clear Days.	Fair Days.	Cloudy Days.	Rainy Days.	Clear Days.	Fair Days.	Cloudy Days.	Rainy Days.	Clear Days.
Arlington Heights	27	3	1	0	27	4	0	0	28
Berkeley	17	14	0	0	19	8	4	0	24
Bethany	29	1	1	0	21	10	0	0	22
Crescent City	9	12	10	2	6	10	15	4	17
Chino	28	3	0	0	20	6	5	0	18
Claremont	21	10	0	0	21	2	8	4	15
Eureka	3	18	10	1	6	10	15	0	15
Evergreen	29	2	0	0	23	8	0	0	27
Folsom	27	4	0	0	26	5	0	1	26
Fresno	28	3	0	0	26	5	0	0	27
Fallbrook	26	4	1	1	22	5	4	2	25
Georgetown	28	3	0	0	30	1	0	1	28
Hydesville	8	23	0	0	3	28	0	1	7
Independence	23	8	0	0	25	5	1	3	28
Tower Hill	28	1	2	0	25	3	3	1	25
Kennedy Gold Mine (Jackson)	29	2	0	0	29	2	0	0	26
Lakeport	27	4	0	0	28	2	1	0	24
Lick Observatory	29	2	0	1	30	1	0	0	22
Lodi	29	2	0	0	29	2	0	0	28
La Grange	27	4	0	0	22	9	0	0	27
Los Gatos	31	0	0	0	26	5	0	0	25
Los Angeles	13	16	2	0	9	22	0	1	12
Middletown	30	0	1	0	26	5	0	0	28
Meadow Valley (near)	18	12	1	0	21	7	2	1	22
Milton	23	8	0	0	20	11	0	0	27
Mariposa	28	2	1	0	26	5	0	0	26
Mokelumne Hill	26	2	3	0	28	3	0	0	27
Nevada City	28	3	0	0	27	4	0	0	26
Newcastle	27	4	0	0	26	5	0	0	25
Napa City	16	15	0	0	12	17	2	1	21
Niles	29	1	1	0	28	2	1	0	26
Needles	18	11	2	2	7	23	1	2	25
Oakland	18	12	1	1	13	11	7	0	23
Ontario	28	2	1	0	21	8	2	0	16
Palermo	29	2	0	0	31	0	0	0	24
Placerville	27	3	1	0	26	1	4	1	23
Petaluma	16	15	0	0	28	3	0	0	22
Point Reyes	8	1	22	0	4	1	26	0	12
Point Lobos	4	20	7	0	3	20	8	0	5
Paso Robles	30	0	1	0	29	1	1	1	28
Redding	23	6	2	0	13	16	2	1	21
Red Bluff	28	3	0	1	26	5	0	0	25
Rosewood (Hunter's P. O.)	28	2	1	1	21	10	0	0	24
Rio Vista	30	1	0	0	30	1	0	0	28
Riverside	27	3	1	0	26	5	0	1	28
Shasta Springs	27	4	0	0	18	13	0	1	14
Sacramento	28	2	1	0	28	3	0	0	27
San Francisco	18	11	2	0	14	11	6	0	23
Stockton	26	5	0	0	29	2	0	0	28
San José	29	2	0	0	25	6	0	0	27
Santa Cruz	15	12	4	0	20	6	5	0	21
Santa Barbara	27	3	1	1	20	9	2	0	18
San Bernardino	26	3	1	0	24	7	0	2	26
Sweetwater Dam	26	5	0	0	19	12	0	0	7
San Diego	24	6	3	0	23	8	0	1	21
Turlock	27	4	0	0	23	8	0	1	28
Tulare (near)	28	3	0	0	28	1	2	0	28
Ukiah	29	2	0	0	23	8	0	0	18
Yacaville	27	4	0	0	23	8	0	0	28
Ventura	17	5	9	1	14	17	0	0	20
Wheatland	27	0	4	0	28	3	0	1	25
Winters (near)	31	0	0	0	31	0	0	0	28
Wire Bridge (Auburn P. O.)	31	0	0	0	31	0	0	0	28
Yreka	16	15	0	5	4	27	0	2	17
Yuba City	26	5	0	0	31	0	0	0	28
Monthly and annual averages	24	6	1	0.3	22	7	2	0.5	23

Continued.

September.			October.			November.			December.			Annual.						
Fair Days..	Cloudy Days..	Rainy Days..	Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..	Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..	Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..	Clear Days..	Fair Days..	Cloudy Days..	Rainy Days..
2	0	1	21	9	1	3	26	4	0	0	13	9	9	11	246	91	28	34
5	1	1	20	7	4	5	27	1	2	1	5	8	18	18	181	89	95	66
5	3	2	14	10	7	5	22	4	4	1	1	11	19	18	191	106	68	60
9	4	7	10	8	13	15	14	7	9	7	6	8	17	21	112	119	134	136
10	2	1	21	8	2	0	28	2	0	0	12	2	17	7	256	56	53	24
8	7	1	25	4	2	0	25	4	1	0	4	9	9	10	198	89	78	37
12	3	5	8	12	11	13	6	17	7	5	5	8	18	25	86	132	147	128
1	2	1	17	8	6	5	22	4	4	2	3	7	21	17	220	83	62	69
3	1	2	19	7	5	4	22	6	2	1	4	10	17	24	201	103	61	78
2	1	2	22	7	3	3	22	6	2	1	4	9	18	13	213	88	64	55
2	3	1	28	3	0	2	24	4	2	0	7	7	17	12	250	65	40	39
0	2	2	22	1	8	8	27	1	2	1	5	5	21	24	239	41	85	81
21	2	4	3	19	9	9	9	20	1	3	4	7	20	20	91	194	80	96
1	1	0	25	5	1	0	28	2	0	0	7	15	9	9	277	67	21	26
2	3	2	19	2	10	7	22	5	3	1	2	5	24	24	201	54	110	97
2	2	2	21	6	4	4	18	11	1	1	5	9	17	20	231	65	69	72
5	1	1	19	7	5	5	20	7	3	3	2	8	21	21	192	84	189	76
2	1	2	23	3	5	8	25	4	1	1	5	9	17	23	229	69	67	103
0	2	2	23	4	4	4	23	4	3	1	3	7	21	17	219	92	54	59
1	3	2	18	12	1	2	22	7	1	1	3	17	11	13	201	121	43	49
3	2	2	10	17	4	4	27	1	2	1	7	2	22	18	237	71	57	62
18	0	2	13	16	2	1	18	12	0	0	9	8	14	10	143	177	45	30
0	2	1	23	0	8	4	25	0	5	1	3	0	28	20	228	9	128	60
4	4	2	17	4	10	7	16	10	2	2	5	2	24	20	170	76	119	86
1	1	2	18	10	3	5	18	8	4	1	0	10	21	15	180	118	67	62
2	2	2	21	8	2	4	25	4	1	1	9	9	13	16	209	107	49	66
1	2	2	23	2	6	3	24	4	2	1	8	1	22	16	235	36	94	66
2	2	2	17	5	9	6	20	6	4	2	3	6	22	18	221	54	90	72
3	2	2	20	3	8	3	25	3	2	1	4	5	22	19	203	69	93	63
7	2	1	13	13	5	5	19	9	2	2	4	0	27	20	167	122	76	68
1	3	1	20	4	7	5	23	2	5	2	4	0	27	21	223	21	121	69
5	0	1	25	3	3	1	23	5	2	0	4	12	15	5	221	94	50	14
6	1	3	18	9	4	5	25	4	1	1	5	11	15	22	208	87	70	85
11	3	1	27	3	1	1	22	8	0	0	6	1	24	10	228	88	49	32
0	6	2	21	0	10	4	20	0	10	1	7	2	22	8	240	34	91	50
3	4	2	17	5	9	5	25	2	3	1	2	6	23	20	189	55	121	80
3	5	2	20	4	7	4	26	1	3	4	4	3	24	23	214	67	84	77
4	14	3	12	3	16	6	10	6	14	1	4	0	27	21	108	30	227	77
17	8	2	14	7	10	5	15	10	5	2	10	1	20	22	109	144	112	79
0	2	2	22	5	4	3	21	3	6	1	3	8	20	10	236	63	66	36
7	2	2	14	8	9	8	20	5	5	2	6	6	19	19	180	92	93	78
3	2	2	19	4	8	7	20	7	3	2	5	5	21	22	208	91	66	90
5	1	2	18	5	8	7	22	6	2	2	7	5	19	17	163	150	52	76
0	2	1	20	3	8	6	23	4	3	2	3	8	20	22	207	64	94	67
2	0	0	14	9	8	1	25	5	0	0	12	3	16	9	259	71	35	27
13	3	2	12	11	8	9	14	13	3	3	4	3	24	21	140	120	105	75
1	2	2	27	1	2	5	23	5	2	1	3	9	19	20	219	73	73	64
6	1	2	17	9	5	5	21	8	1	1	3	9	19	22	174	103	88	77
0	2	2	21	9	1	4	22	6	2	1	6	12	13	17	223	92	50	52
1	1	2	22	4	5	4	22	4	4	1	8	1	22	16	236	62	67	66
2	7	2	20	1	10	5	24	2	4	1	8	0	23	19	217	57	91	67
6	6	2	18	7	6	2	13	8	9	1	11	5	15	8	214	79	72	31
4	0	1	20	8	3	2	26	4	0	0	9	12	10	9	247	80	38	32
23	0	0	22	9	0	1	24	6	0	0	10	8	12	12	205	145	15	25
0	9	1	18	6	3	0	17	7	6	0	10	4	17	14	211	87	67	35
0	2	2	20	6	5	3	24	4	2	1	3	7	21	16	213	76	76	63
0	2	1	20	8	3	3	23	6	1	1	2	13	16	8	212	96	57	37
11	1	2	19	5	7	8	20	5	5	2	4	7	20	22	189	95	81	86
1	1	1	22	6	3	5	23	7	0	3	4	15	12	22	214	115	36	76
9	1	1	20	10	1	1	26	1	3	0	12	5	14	10	198	106	61	27
2	3	2	20	1	10	6	19	6	5	1	7	6	18	21	214	47	104	71
0	2	2	25	3	3	3	20	5	5	1	9	0	22	21	268	32	65	59
0	2	1	21	0	10	5	28	1	1	1	9	0	22	23	261	16	88	70
12	1	1	13	13	5	8	15	15	0	2	2	10	19	18	111	203	51	87
0	2	2	21	4	6	4	16	12	6	1	2	11	18	18	214	103	48	65
4	3	2	19	6	6	4	21	6	3	1	6	6	19	17	203	87	75	59



TABLE No. 3.

*"Temperatures" for the State in 1894: Mean Monthly and Annual Temperature—Normals, Averages, Departures, and Highest and Lowest.*

	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.	Date	Temperature.
For the State.																										
Normals	45.6		48.8		53.0		57.7		64.1		70.8		73.1		73.7		68.8		61.1		53.4		52.9		60.1	
Averages	44.8		46.0		51.4		59.6		63.4		66.0		74.9		74.8		69.7		61.9		56.2		47.2		60.0	
Departures	-0.8		-2.8		-1.6		+1.9		-0.7		-4.8		+1.8		+1.1		-0.1		+0.8		+2.8		-5.7		-0.1	
Highest	83	28	90	27	105	28	103	20	111	6	118	30	123	25	120	1	116	22	110	4	104	7	80	3	123	*
Lowest	-22	6	-15	11	-7	3	15	27	18	16	25	11	35	27	35	12	22	28	20	23	5	-6	26	-22	†	

\* July 25, at Volcano Springs, in the desert regions of San Diego County.

† January 6, at Boca, in the high mountain regions of Placer County.

*"Precipitation" for the State in 1894: Monthly and Annual Precipitation—Normals, Averages, Departures, and the Greatest and Least Monthly.*

	January Pre- cipitation		February Pre- cipitation		March Pre- cipitation		April Pre- cipitation		May Pre- cipitation		June Pre- cipitation		July Pre- cipitation		August Pre- cipitation		September Pre- cipitation		October Pre- cipitation		November Pre- cipitation		December Pre- cipitation		Annual Pre- cipitation	
	in.		in.		in.		in.		in.		in.		in.		in.		in.		in.		in.		in.		in.	
For the State.																										
Normals	4.52		3.56		3.43		2.36		0.89		0.31		0.05		0.03		0.21		1.22		2.43		4.42		23.41	
Averages	5.03		3.47		1.43		0.70		1.21		0.68		0.02		0.05		0.86		1.63		0.61		9.42		25.11	
Departures	+0.51		-0.09		-1.96		-1.66		+0.32		+0.37		-0.03		+0.02		+0.05		+0.41		-1.82		+5.00		+1.70	
Greatest	27.56		16.48		15.41		4.41		5.64		3.49		1.31		1.45		4.00		9.65		5.07		38.41		38.41	
Least	trace.		0.12		none.		none.		none.		none.		none.		none.		none.		none.		none.		1.05		none.	†

\* In December, at Fordyce Dam, in the mountain regions of Nevada County. † March to November, at numerous places.

TABLE No. 4.

*Monthly Average Number of Clear, Fair, Cloudy, and Rainy Days for the State in 1894.*

	Averages for the State.		Averages for the State.
January—		July—	
Clear .....	12	Clear .....	24
Fair .....	9	Fair .....	6
Cloudy .....	10	Cloudy .....	1
Rainy .....	10	Rainy .....	0.3
February—		August—	
Clear .....	13	Clear .....	22
Fair .....	6	Fair .....	7
Cloudy .....	9	Cloudy .....	2
Rainy .....	9	Rainy .....	0.5
March—		September—	
Clear .....	13	Clear .....	23
Fair .....	10	Fair .....	4
Cloudy .....	8	Cloudy .....	3
Rainy .....	7	Rainy .....	2
April—		October—	
Clear .....	18	Clear .....	19
Fair .....	8	Fair .....	6
Cloudy .....	4	Cloudy .....	6
Rainy .....	3	Rainy .....	4
May—		November—	
Clear .....	15	Clear .....	21
Fair .....	10	Fair .....	6
Cloudy .....	6	Cloudy .....	3
Rainy .....	6	Rainy .....	1
June—		December—	
Clear .....	18	Clear .....	6
Fair .....	8	Fair .....	6
Cloudy .....	4	Cloudy .....	19
Rainy .....	4	Rainy .....	17

*Seasonal and Annual Averages of Clear, Fair, Cloudy, and Rainy Days in 1894.*

	Averages for the State.		Averages for the State.
Winter—		Summer—	
Clear .....	31	Cloudy .....	7
Fair .....	21	Rainy .....	5
Cloudy .....	38	Autumn—	
Rainy .....	36	Clear .....	63
Spring—		Fair .....	16
Clear .....	46	Cloudy .....	12
Fair .....	28	Rainy .....	7
Cloudy .....	18	Annual—	
Rainy .....	16	Clear .....	204
Summer—		Fair .....	86
Clear .....	64	Cloudy .....	75
Fair .....	21	Rainy .....	64

*Average Temperature and Precipitation for the State by Seasons and for the Year, along with the Departures from Normal—1894.*

	Averages for the State.		Averages for the State.
Winter—		Summer—	
Average temperature .....	46.0 deg.	Average precipitation .....	0.75 in.
Departure from normal .....	—3.1 deg.	Departure from normal .....	+0.36 in.
Average precipitation .....	5.97 in.	Autumn—	
Departure from normal .....	+1.80 in.	Average temperature .....	62.6 deg.
Spring—		Departure from normal .....	+1.2 deg.
Average temperature .....	58.1 deg.	Average precipitation .....	3.10 in.
Departure from normal .....	—0.2 deg.	Departure from normal .....	—0.76 in.
Average precipitation .....	3.34 in.	Annual—	
Departure from normal .....	—3.34 in.	Average temperature .....	59.7 deg.
Summer—		Departure from normal .....	—0.6 deg.
Average temperature .....	71.9 deg.	Average precipitation .....	13.16 in.
Departure from normal .....	—0.6 deg.	Departure from normal .....	—1.94 in.

TABLE No. 5.  
*The Total Wind Velocity for each Month, and for the Year 1894.*

Stations.	Janu- ary.	Febru- ary.	March.	April.	May.	June.	July.	August.	Septem- ber.	October.	Novem- ber.	Decem- ber.	Total Annual Number.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Eureka	5,245	4,385	5,492	5,226	5,567	5,594	4,094	3,788	4,736	3,697	2,867	5,174	55,855
Fresno	3,220	3,577	5,308	5,472	5,352	5,903	5,347	5,091	4,361	3,588	2,545	3,696	53,460
Los Angeles	2,511	2,794	3,138	3,024	3,077	3,143	2,633	2,714	2,492	2,113	1,481	2,655	31,775
Oakland	3,567	3,504	4,135	4,184	4,454	5,094	4,324	4,130	3,596	3,196	2,146	6,139	48,469
Point Reyes	10,942	10,767	15,603	17,013	14,002	17,693	13,898	14,340	11,491	11,544	7,797	11,857	156,947
Point Lobos	9,767	10,575	11,313	12,111	11,443	13,968	11,481	11,535	8,783	9,079	6,429	11,718	128,202
Red Bluff	5,184	5,938	5,461	6,432	5,925	5,008	3,781	3,529	5,575	4,910	4,010	6,534	62,287
Sacramento	5,154	6,258	5,825	6,564	7,294	7,101	6,475	6,558	6,516	5,531	3,806	8,219	75,301
San Francisco	5,945	6,675	8,215	8,533	9,425	10,218	11,211	10,335	8,564	6,709	3,833	6,704	96,367
Santa Barbara	3,215	3,389	3,836	3,835	3,585	4,359	3,796	3,125	3,225	2,663	2,043	3,110	40,181
San Diego	3,746	3,488	4,335	3,874	4,228	4,002	3,889	3,577	3,675	2,798	2,839	3,197	43,648
Upper Lake	2,915	3,415	4,415	4,595	3,955	3,950	2,950	2,735	3,385	2,505	2,370	6,335	43,525

Highest hourly velocity, 70 miles, at Point Reyes, in April.

There is no doubt but what the increased wind velocity at Sacramento, as shown in the above tables, during the months of June, July, August, and September, over what it was at Red Bluff and Fresno, is the cause of the Capital City being so much cooler during the summer months than are Red Bluff and Fresno. The more rapid movement of the atmosphere, during the heated season, from the ocean towards Sacramento causes it to reach the latter city with but little increase in temperature from what it was when it blew through the Golden Gate at a rapid rate to cool the interior cities.



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REPORTS

FROM

DISTRICT AGRICULTURAL ASSOCIATIONS.

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# REPORT

FROM THE

## FIRST DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of San Francisco and Alameda,

FOR THE YEAR 1894.

**Officers.**—W. M. Kent, President; Jos. I. Dimond, Secretary; Encinal Bank of Alameda, Treasurer.

**Directors.**—W. M. Kent, Oakland; C. S. Crittenden, San Francisco; P. E. Dalton, Oakland; Eli S. Denison, Oakland; H. W. Meek, San Lorenzo; Chas. S. Neal, Alameda; Alfred H. Cohen, Fruitvale.

DECEMBER 31, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the First District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
Miscellaneous account .....	\$3,627 44	
Trotting and pacing account .....	12,339 00	
Privilege account .....	4,073 25	
Gate account .....	2,126 50	
Entry clerk account .....	142 00	
Running account .....	840 00	
		<u>\$23,148 19</u>
EXPENDITURES.		
Miscellaneous account .....	\$3,049 58	
Trotting and pacing account .....	13,755 00	
Premium account .....	1,783 50	
Park expense account .....	2,192 44	
Labor account .....	852 25	
Running account .....	4,355 00	
Advertising account .....	840 88	
		<u>\$26,828 65</u>

### DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 1.

(San Francisco and Alameda Counties.)

The First Agricultural District of the State of California is composed of the counties of San Francisco and Alameda, the two wealthiest in the State.

The county of San Francisco is entirely taken up with the city of the same name, the metropolis of the Pacific Coast, and has consequently no agricultural value; but in the busy marts the output of all the other counties finds the principal market, while 90 per cent of the deep-sea shipments of the State are made through its port. If San Francisco puts forth no claim as an agricultural county, it can, and does, point



proudly to its sister county of the district as being the equal in that respect of any in the State, and well entitled to its name of "The Garden Spot of California."

#### ALAMEDA COUNTY.

Alameda County was selected by the Franciscan Fathers in 1797 as the site of one of their missions, and this was located at what has since been known as Mission San José, situated in the very heart of one of the most fertile valleys in the State. Alameda County covers an area of upward of seven hundred square miles.

*The topography* of the county is broken on its northern and eastern sides by the Contra Costa range, the highest peak of which is 2,275 feet above the level of the sea. But much of this elevated land is suitable to vine, fruit, and grain culture, and within its spurs and along its base lie some of the richest valleys in the country. The county has a frontage of nearly fifty miles on the eastern shore of San Francisco Bay.

*Resources.*—Alameda County has vast resources. Its hill lands are usually rolling and easy to traverse; its valleys are all easy of access and convenient to the principal market of the Pacific Coast. The marshes bordering the bay shore are devoted, in the neighborhood of Alameda, to the manufacture of salt, which finds a market all along the Pacific Coast, from Alaska to South America, and in the islands of the Pacific Ocean. Its arable lands are the most fertile in the State, and are devoted to the cultivation of grain, hay, the vine, and all the fruits common to the temperate zone. Wheat has been raised in Alameda County since 1701, and the cultivation of the grape for the manufacture of wine goes quite as far back and has been continued ever since, until now it has the largest and most complete winery in the world, located at Irvington. The founders of the Mission San José planted the olive, the vine, apples, cherries, pears, and peaches, and there are now growing in the county about 1,600,000 of these trees, over 1,000,000 of them being in bearing. In production of cherries the county stands at the head of the list of counties in the State; and in small fruits, such as currants, gooseberries, raspberries, strawberries, blackberries, etc., it is estimated that nearly 1,400 acres are under cultivation.

*Climate.*—The climate is remarkably equable and mild the year round.

*Price of Lands.*—Farming lands suitable for grain growing, fruit or vine culture, range in value from \$50 to \$500 per acre.

*The Manufacturing Interests* of the county are varied and valuable. The pioneer beet-sugar factory of the United States is in operation at Alvarado, with a daily capacity of 150 tons of beets, and representing an investment of \$300,000 in capital.

Salt manufacturing is carried on at different beds along the bay shore adjacent to Newark, Mount Eden, and Alvarado, turning out 2,500,000 pounds annually, worth from \$7 to \$14 per ton.

The crude borax product of the territory west of the Rocky Mountains is refined at the borax works of Alameda, which has a capacity of 100 tons, crude material, per day.

All of the petroleum products of the State are refined at Alameda, the refinery there having a daily capacity of 1,000 cases.

The largest manufactory of laundry and toilet soap, west of the Mississippi River, is located at West Berkeley.

The iron works, rolling mills, bridge manufactories, nail works, canneries, cotton mills, railroad car and work shops, factory for the manufacture of agricultural implements, tanneries, terra cotta works, and other industries represent a capital of \$20,000,000. The actual value of property throughout the county will approximate nearly \$120,000,000, and the population is about 100,000.

From the above it will be seen that the First Agricultural District embraces within its limit, in Alameda County, the garden spot of the State, and that it also offers, in San Francisco, the best market on the coast for the agricultural output of all the other districts combined.

JOS. I. DIMOND,  
Secretary.

W. M. KENT,  
President.

## REPORT

FROM THE

## SECOND DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of San Joaquin,

FOR THE YEAR 1894.

**Officers.**—L. U. Shippee, President; C. E. Doan, Secretary; A. W. Simpson, Treasurer.  
**Directors.**—L. U. Shippee, Stockton; Louis Gerlock, Stockton; R. W. Russell, Stockton; James H. Budd, Stockton; N. S. Harrold, Farmington; James A. Shepherd, Lathrop; C. E. Needham, Bellota; B. F. Langford, Lodi.

STOCKTON, December 15, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Second District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.	
Balance on hand as per last report.....	\$84 90
Received from Park and Pavilion privileges, account 1893.....	835 00
Received from entrance fees, account 1893.....	1,322 75
Received from State appropriations, 1893 and 1894.....	7,000 00
Received from Pavilion rental.....	190 00
Received from Pavilion sweepstakes.....	8 00
Received from entrance fees, 1894.....	7,550 00
Received from Park receipts.....	3,289 65
Received from Pavilion receipts.....	2,337 75
Received from Pavilion privileges.....	107 45
Received from Park privileges.....	3,512 50
Received from National Trotting Association (fines and penalties).....	17 55
	<hr/> \$26,255 55
EXPENDITURES.	
Paid on bills payable.....	\$5,021 20
Paid for insurance.....	740 00
Paid interest on bills payable.....	1,124 17
Paid on 1893 purses and stakes.....	801 66
Paid on 1893 premiums.....	23 00
Paid for Park improvements.....	360 21
Paid for Pavilion improvements.....	453 73
Paid for general expenses.....	6,905 69
Paid for personal property.....	47 35
Paid for purses and stakes.....	9,256 14
Paid for premiums.....	1,265 49
Paid National Trotting Association (fines and penalties collected in 1893 and 1894).....	135 60
Cash on hand.....	121 31
	<hr/> \$26,255 55



## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 2.

(San Joaquin County.)

San Joaquin County contains 873,200 acres of land, the larger portion of which is susceptible of the highest cultivation, and is very productive. The county is located near the junction of the San Joaquin and Sacramento Rivers, and in about the geographical center of California's great basin, and therefore in a position to enjoy special advantages in many respects. The San Joaquin River, which flows through the county from south to north, is navigable during the whole year to the southern portion of the county, thus guaranteeing for all time the cheapest possible means of transportation. The proximity of the county to the only pass in the Coast Range, which freely admits the passage of the ocean breezes to moderate and regulate the temperature during the warmer summer months, gives the locality a climate unexcelled by any upon the continent, as extremes of temperature are never experienced.

*Lay of the Land.*—There is a great variety of soil, nearly all of it being rich. The western portion of the county consists of a rich delta bordering the San Joaquin and Mokelumne Rivers, which have channels dividing the land into tracts called islands. The land was formerly subject to overflow, but by the construction of levees to protect it from overflow, it has been made to produce a great variety of crops. Although the reclamation of these lands was at first regarded as problematical, and many mistakes and failures marked the progress of the work during its earlier inception, enough has now been accomplished to show that the work upon a large scale is wholly practicable, and the success that has attended the efforts of those who have given the subject proper attention when constructing their reclamation works, so as to effectually secure the object sought, will encourage the owners of most of this character of land to provide for bringing it under cultivation.

*Soil.*—In the central portion of the county and surrounding Stockton there is a large amount of what is known as adobe land, which is a black, clayey soil. Although this is not easily worked, yet when it contains the proper amount of moisture it is remarkably fertile. This soil with irrigation and careful cultivation will produce a great variety of crops, and has been found especially adapted to the growth of choice varieties of table grapes, as well as the pear and other varieties of fruit trees. Through the portion of the county where the adobe land predominates there are, however, many varieties of soil, all of which have been proven to be equally good for the production of cereals, but some better than the adobe for other crops. While all varieties appear to be rich in plant food, some are more easily worked, and contain different portions of sand and alluvium matter, which makes them more suitable for the growth of trees and vines.

That portion of the county lying north of the Mokelumne River was originally covered with a growth of white and live oak trees, together with chaparral and underbrush. It is now regarded as among the most valuable land in the State. Some of the choicest wheat raised in California is now grown in that locality, and the soil is also found to be capable of producing a variety of crops.

Along the Mokelumne there is considerable bottom land, which is overflooded in seasons of extreme high water, but which can be culti-

vated after the water recedes. This land is extraordinarily fertile and capable of producing an almost endless variety of crops. Along the lower Mokelumne is a large extent of territory which was classed as swamp land. Much of this has been thoroughly reclaimed and is now profitably cultivated to cereals and other crops.

South of the Mokelumne, and extending from the swamp land to the foothills on the east, is a large area of very valuable land, the soil of which is a sandy loam, easily cultivated and well adapted to the growth of vines and fruit trees. The grape can be here successfully grown without irrigation. In the eastern portion of the county, extending from the Mokelumne River south for about twelve miles, there is considerable hilly and rolling land, the soil of which is varied, but generally a red clay and sometimes containing gravel.

The land bordering the Calaveras River has generally been considered among the best in the county. Its rich alluvial soil has always produced large crops of wheat, and those who have planted trees and vines in this portion of the county have generally been successful in growing them without irrigation.

Upon the "west side" of the San Joaquin River, in this county, there is a body of land from 8 to 10 miles in width and extending for 25 miles, which in favorable seasons has produced extraordinary crops of wheat. The soil is a deep, sandy loam, in many places from 30 to 40 feet to the hardpan, and with a supply of water it could be made the most productive and valuable land in the county. This large body of land is an important portion of San Joaquin County, and must eventually be furnished with means of artificial irrigation from the San Joaquin River, which in seasons when irrigation is necessary to secure the growth of vegetation, pours its torrents of water past the land to the sea.

*Natural Advantages.*—The natural advantages of the county for the growth of every kind of cereals, semi-tropical and deciduous fruits, and all kinds of vegetables, are unsurpassed. The soil is wonderfully productive, and the climate such that in hundreds of home places the apple and the pear are found in the same orchard with the almond, the fig, and the olive, surrounded by thousands of acres of waving wheat and corn. If the area of this county, which is eminently adapted for fruit-raising, olive culture, raisin and wine making, etc., were entirely devoted to such uses, the possibilities are so great that it is impossible to estimate the results. The supplies which now come from Spain, Italy, and France can be produced here in as great perfection, and it must be borne in mind that this is not simply a theory or baseless fabric of the brain, as the raisins sent from this part of the State are pronounced equal to the best imported Malaga. California wine is fast receiving recognition at home and abroad, while several brands of California brandy have been pronounced by medical men to be the purest and best in the market for medical uses.

*A Healthful Climate.*—While California is justly noted for the variety of its climate, and the remarkable differences in temperature and general climatic conditions that are to be observed in a single day's travel through portions of the State, San Joaquin County is particularly remarkable for the equability of its climate, as extremes of heat and cold are here unknown.

The general health of the people has always been remarkably good, and the death-rate here is less than in most other localities of the same

population. The mortuary reports for the city of Stockton have been accurately kept for many years, and they show that Stockton is one of the healthiest cities in the United States.

*Cereals.*—Wheat-raising has been the chief agricultural industry of the territory tributary to Stockton. Though farmers have prospered, it is becoming more and more apparent every year that it is not a profitable industry. To escape it, and to secure greater prosperity, an increase of population, and more desirable rural homes, great attention is given to irrigation. Several projects are being industriously pushed, and when they are completed, nearly every acre of land in the county will be within reach of the water.

¶ The following is a statement of the acreage and total production of the cereals and agricultural products of San Joaquin County for the year 1894:

Product.	Acreage.	Yield.
Wheat .....	225,340	4,500,000 bushels.
Corn .....	350	12,250 bushels.
Barley .....	70,000	1,992,000 bushels.
Oats .....	250	6,250 bushels.
Potatoes .....	8,000	1,464,000 bushels.
Hay .....	4,000	24,000 tons.

*Alfalfa Hay.*—It is estimated that there are 2,000 acres of land sown to alfalfa, which yields a crop of six tons to the acre three times a year. The net price of alfalfa hay to the farmer on the ranch is about \$5 per ton. The acreage of alfalfa is increasing yearly, and as there is now a plentiful supply of water by reason of the completion of the various irrigation ditches which have been in course of construction during the past three years, there is now available about 20,000 acres of first-class alfalfa land, which will, no doubt, within a short time be sown to crop.

*Clover Hay.*—There are about 2,000 acres of land sown to clover hay, the average yield of which is about seven tons to the acre, the crop being cut three times a year. The net price to the farmer is about \$5 per ton.

*Ramie.*—An effort has been made to grow ramie in this county, and the results have been very gratifying and satisfactory. There are probably 10,000 acres of land in this county that are suitable for growing this product. If a bounty or subsidy were given to growers of this product for a period of, say five years, it is believed that it would very materially stimulate the planting of ramie plants, and that in time the product would become a valuable one to the county.

*Sugarcane.*—The Government Experiment Station on Union Island, in this county, has proven that cane raised here is of better quality than that from the Hawaiian Islands. The growth of the cane is rapid, and the amount of saccharine matter in the cane is greater than in that produced on the Islands. There are 20,000 acres of land in this county that are available and suitable to the culture of sugarcane. It is reported that Claus Spreckels, who recently investigated the matter, will contract to buy the crop, for a term of years, provided the said acreage is planted.

*Beans.*—The estimated acreage of beans is 5,000 acres, the average yield being twenty-five sacks of eighty pounds each to the acre.



*Potatoes.*—The estimated acreage of potatoes is 8,000 acres, the average yield being one hundred sacks of one hundred and ten pounds each to the acre. The quality of the potatoes is first-class.

*Onions.*—It is estimated that there are 3,000 acres planted to onions, yielding an average of two hundred sacks of one hundred and seven pounds each to the acre. The yield and quality of this product are very satisfactory, but on account of excessive freight charges overland, and the limited market at home, the price is very low.

*Vegetables.*—In addition to the above productions of the soil, it is estimated that there are 2,000 acres of land planted to the various vegetables, including cabbages, lettuce, peas, radishes, asparagus, turnips, carrots, beets, and celery. The yield of all these products is abnormally large, and the quality unsurpassed. Every acre of land in the county is susceptible to the raising of vegetables.

*Manufacturing.*—Stockton can boast justly of its manufacturing enterprises. First in importance is the manufacture of flour. This city is the home of the combined harvester. The extent and magnitude of the manufacturing interests of the city can best be shown by giving the figures for the production during 1892, as the year 1893 was comparatively dull throughout the whole country. The following is taken from the "Independent" of January, 1893, and is as approximately correct as it would be possible to get it. It shows the total output of manufactured products for the year to be nearly \$10,000,000:

#### *Flouring Mills.*

Sperry & Co.—Output, \$2,350,000; payroll, \$75,000; employés, 75.  
Crown Mills—Output, \$2,300,000; payroll, \$79,000; employés, 71.  
Union Mill—Output, \$1,000,000; payroll, \$78,000; employés, 60.  
Aurora Mill—Output, \$200,000; payroll, \$2,500; employés, 5.

#### *Agricultural Works.*

Stockton Combined Harvester and Agricultural Works—Output, \$375,000; payroll, \$98,213; employés, 150.  
Houser, Haines & Knight—Output, \$120,000; payroll, \$25,000; employés, 40.  
Matteson & Williamson Company—Output, \$140,000; payroll, \$45,000; employés, 60.  
Holt & Son—Output, \$25,000; payroll, \$7,000; employés, 16.  
Holt Manufacturing Company—Output, \$300,000; payroll, \$82,500; employés, 80.  
H. C. Shaw—Output, \$40,000; payroll, \$8,000; employés, 11.

#### *Planing Mills.*

P. A. Buell & Co.—Output (including lumber sold), \$394,625; payroll, \$67,000; employés, 80.  
White & Thomas—Output, \$100,000; payroll, \$35,000; employés, 40.  
Union Planing Mill—Output, \$65,000; payroll, \$20,000; employés, 18.  
C. C. Blair—Output, \$40,000; payroll, \$12,000; employés, 15.

#### *Foundries.*

Globe Foundry—Output, \$62,000; payroll, \$21,000; employés, 35.  
Stockton Iron Works—Output, \$45,000; payroll, \$21,000; employés, 25.

#### *Carriages and Wagons.*

Henderson & Son—Output, \$50,000; payroll, \$14,000; employés, 25.  
W. P. Miller—Output, \$40,000; payroll, \$17,000; employés, 30.  
Hansel & Olrich—Output, \$30,000; payroll, \$7,000; employés, 12.

#### *Wine, Brandy, and Beer.*

El Pinal Winery—Output, \$125,000; payroll, \$15,000; employés, 20.  
H. Armbrust—Output, \$12,000; payroll, \$3,000; employés, 5.  
D. Rothenbush & Son—Output, \$25,000; payroll, \$8,000; employés, 10.

*Terra Cotta and Brick.*

Terra Cotta Works—Output, \$31,000; payroll, \$12,000; employes, 19.

San Joaquin Brick Company—Output, \$40,000; payroll, \$18,000; employes, 25.

*Furniture.*

Morrell & Mitscher—Output, \$15,000; payroll, \$5,000; employes, 6.

Stockton Furniture—Output, \$15,000; payroll, \$6,000; employes, 8.

M. Schneider—Output, \$10,000; payroll, \$3,000; employes, 5.

*Soda Water.*

Schmidt & Co.—Output, \$50,000; payroll, \$8,500; employes, 12.

C. Belding & Co., estimated—Output, \$20,000; payroll, \$2,000; employes, 4.

*Miscellaneous.*

Woolen Mills—Output, \$250,000; payroll, \$50,000; employes, 98.

Pacific Tannery—Output, \$340,000; payroll, \$40,000; employes, 60.

Paper Mill—Output, \$250,000; payroll, \$55,000; employes, 80.

Macaroni, P. Musto & Co.—Output, \$25,000; payroll, \$5,000; employes, 9.

Soap, Williams & Moore—Output, \$25,000; payroll, \$8,000; employes, 6.

Buhach Mill—Output, \$50,000; payroll, \$6,000; employes, 10.

Saddlery, estimated—Output, \$90,000; payroll, \$10,000; employes, 25.

Tin and sheet iron, estimated—Output, \$125,000; payroll, \$35,000; employes, 30.

Cigars, estimated—Output, \$60,000; payroll, \$10,000; employes, 12.

Candy, estimated—Output, \$50,000; payroll, \$12,000; employes, 18.

Clothing, Charter Oak Company—Output, \$60,000; payroll, \$25,000; employes, 30.

Marble work, estimated—Output, \$85,000; payroll, \$23,000; employes, 28.

Windmills—Output, \$50,000; payroll, \$16,000; employes, 22.

Patent medicines—Output, \$25,000; payroll, \$5,000; employes, 9.

*Summary.*

Industries.	Hands.	Wages.	Output.
Flour, etc. ....	211	\$234,500	\$5,750,000
Agriculture .....	266	175,213	960,000
Planing mills .....	153	134,000	599,625
Foundries .....	60	42,000	107,000
Carriages, etc. ....	67	38,000	120,000
Wine, brandy, etc. ....	35	26,000	162,000
Terra cotta and brick .....	44	30,000	71,000
Furniture .....	19	14,000	40,000
Soda water .....	16	10,500	70,000
Miscellaneous .....	427	301,000	1,385,000
Totals .....	1,298	\$1,005,213	\$9,164,625

C. E. DOAN,  
Secretary.

# REPORT

FROM THE

## THIRD DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Butte.

FOR THE YEAR 1894.

**Officers.**—A. L. Nichols, President; Jo D. Sproul, Secretary; J. R. Robinson, Treasurer.  
**Directors.**—T. P. Hendricks, Chico; A. L. Nichols, Chico; F. C. Lusk, Chico; L. H. McIntosh, Chico; F. C. Williams, Chico; W. J. O'Connor, Chico; Park Henshaw, Chico; Marion Biggs, Jr., Oroville.

CHICO, December 26, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Third District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
State aid .....	\$2,000 00	
Subscriptions .....	1,050 00	
Entrance to races .....	1,365 00	
Gate receipts .....	366 50	
Bar privileges .....	305 00	
Percentage on pools .....	113 75	
Fines .....	20 00	
Note and interest .....	725 75	
		<u>\$5,946 00</u>
EXPENDITURES.		
Purses .....	\$3,400 00	
Premiums .....	732 00	
Rent of track .....	700 00	
Rent of Pavilion .....	125 00	
Labor .....	185 00	
Secretary .....	275 00	
Hay and straw .....	76 50	
Water .....	200 00	
Advertising and printing .....	152 50	
Interest on overdraft .....	100 00	
		<u>\$5,946 00</u>

### DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 3.

(Butte County.)

The past season, while one peculiarly disadvantageous to the farmer, has ended better than was hoped. While prices for wheat, our staple crop, have been unprecedentedly low, yet a large percentage of our farmers have kept even, while a few have made some money. The farmer has accepted the situation, and is farming on a new basis. Thrift and econ-



omy have taken the place of neglect and waste. In many instances in our county, where it has been the custom for the farmers to depend upon the grocer for butter, and upon the Chinese peddler for vegetables, three or four cows are kept, the straw that formerly was burned is stacked, salted, mixed with alfalfa, and fed, and butter is made, not only for home use, but for sale; a brushy corner of the farm is cleared, and vegetables are raised, saving the expense on the one hand, and increasing the variety and quality of food. A few pigs are kept and fattened with that which was formerly wasted, and the meat hardened by grain that will bring more in pork than for export. Five or ten acres near the residence are set to fruit trees, furnishing a healthy variety of food for summer, and dried or canned for winter use, and the surplus placed in the local cannery, where cash is paid for it on weighing.

"Sweet are the uses of adversity," and while we regret the low prices of grain, at the same time it has taught lessons of thrift and economy which never were dreamed of in our prosperity.

The land in the immediate vicinity of Chico is peculiarly adapted to the raising of the sugar-beet, and it is reported that a large concern engaged in that industry will, during the winter, make experiments in sowing them on various lands near Chico.

The fruit crop for the past season was heavy, and during the summer prices were good. In some cases from \$200 to \$400 an acre was realized on small tracts, and large quantities of trees are to be set out during the winter.

JO D. SPROUL,  
Secretary.

## REPORT

FROM THE

## FOURTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Sonoma and Marin,

FOR THE YEAR 1894.

**Officers.**—J. H. White, President; Thomas Maclay, Secretary; Petaluma Savings Bank, Treasurer.

**Directors.**—J. H. White, Lakeville; Robert Crane, Santa Rosa; H. Meacham, Stony Point; R. S. Brown, Petaluma; F. C. DeLong, Novato; James B. Burdell, Burdell's; Dr. Wm. Finlaw, Santa Rosa.

PETALUMA, December 26, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Fourth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
From State appropriation.....	\$3,000 00	
From entrance to races .....	11,510 45	
From privileges.....	2,025 75	
From gate and grand stand .....	3,167 25	
From collection for National Trotting Association.....	154 00	
From Petaluma Street Railway Company.....	111 00	
From manure sold .....	30 00	
		<u>\$19,998 45</u>
EXPENDITURES.		
For permanent improvements .....	\$428 04	
For labor on grounds and in Pavilion.....	587 80	
For repairs.....	314 89	
For stock premiums.....	805 00	
For Pavilion premiums .....	1,043 00	
For printing and advertising.....	596 45	
For trotting and pacing races.....	14,560 00	
For supplies.....	125 75	
For general expense.....	3,113 07	
		<u>\$21,574 00</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 4.

## (Sonoma and Marin Counties.)

## SONOMA COUNTY.

The many industries in this county have not been quite as prosperous as in past years, due entirely to the financial depression that has existed throughout the country.

*Horticulture.*—The yield of the fruit industry for the past year was above the average. I estimate a total fruit acreage in Sonoma County of about 30,000 acres, divided as follows :

Peach trees .....	about 10,000 acres.
Apple trees .....	about 5,000 acres.
Pear trees .....	about 5,000 acres.
Plum trees .....	about 7,000 acres.
Prunes, apricots, and cherries .....	about 3,000 acres.

Strawberries, blackberries and raspberries are also grown in large quantities and of exceedingly fine quality.

*Lumber Industry.*—The lumber industry for the past year has been somewhat dull. There are about 10,000 acres of timber in the county, with about 250,000,000 feet of lumber standing, and about 10,000,000 feet of sawed lumber in the yards.

*Basalt Block Industry.*—This industry has also been very quiet ; bitumen seems to be more popular for streets, but the block-makers anticipate a revival of the industry. During the year about 2,000,000 blocks were sold, bringing from \$40 to \$42 per thousand. There are about 1,000,000 blocks on hand.

*Dairy Industry.*—This is an important one in Sonoma County, there being 16,983 milch cows. During the past year 2,547,450 pounds of butter were produced, which has been sold at an average of 19 cents per pound net.

*Poultry Industry.*—This industry still continues to advance. This is exemplified by the fact that Messrs. Spreckels and Follis have leased a large tract of land and are now erecting buildings thereon for the accommodation of the chickens, etc. They expect to invest \$200,000 in the business. During the past year, about 60,000 dozen poultry and about 1,855,000 dozen eggs were shipped from this county. There is a tendency on the part of those of moderate means to invest their capital in this industry.

*Grape Culture and Wine-Making Industry.*—

Total number of vineyards .....	832
Total acreage in vines .....	23,291
Acreage in bearing .....	21,908
Acreage in wine grapes .....	22,613
Acreage in table grapes .....	664
Acreage in raisin grapes .....	14
The vintage for 1894 amounted to 2,750,000 gallons.	

*Hop Industry.*—This is a growing industry in this county; many new hop-yards have sprung up during the past year. It is estimated that there are about 8,000 acres devoted to hops. The price during the past year ranged from 6 to 8 cents per pound.

*Manufactures.*—As I stated in my report for last year, Petaluma is the principal manufacturing city in the county. The leading industries of



Petaluma are the Golden Eagle Flour Mill, the California Woolen Mill, the Carlson-Currier Silk Mills, the Petaluma Incubator Factory, the Planing Mill, the Fruit Drier, etc.

The Golden Eagle Flour Mill.—The consumption and output of this mill for the past year are estimated as follows: Consumption of wheat, 16,800,000 pounds; of barley, 1,200,000 pounds; of corn, 240,000 pounds; of oats, 50,000 pounds; exportation of chicken wheat, 3,250,000 pounds; exportation of other chicken feed grain, 400,000 pounds; output of flour, 45,000 barrels; of table meals, etc. (graham), 350 barrels; of ground and rolled barley, 300 tons; of bran, 500 tons; of shorts, 400 tons; of middlings, 250 tons; exportation of bran, shorts, and middlings, 2,700 tons; exportation of other feed, 320 tons. Amount of hay handled by this mill, 3,800 tons. In an average year about one half of the wheat consumed must be imported from Sacramento and San Joaquin Valleys, the crop here not sufficing for the needs of the mill; the same may be said of barley.

The California Woolen Mill still continues to flourish. The amount of wool consumed by this mill during the past year was 453,987 pounds; other supplies consumed, 151,396 pounds; and turned out finished goods to the amount of 150,474 pounds. The payroll of this mill for the year amounted to \$27,006 39.

The Carlson-Currier Silk Mills, established here about two years ago, still continue to employ about 200 hands. The product of this mill for the past year is estimated at \$380,000. The raw material is mostly procured from Japan and China. The finished goods consist of sewing silk in all its various forms, which is sold in all Pacific Coast States, Mexico, Sandwich Islands, and Australia.

The Petaluma Incubator Factory has a business which still continues to increase. It is one of the busiest factories in this county. During the past year it has turned out over 2,000 machines, which were shipped all over the country.

The planing mill (owned by Messrs. Camm & Hedges) employs from 10 to 12 men. Its annual business amounts to about \$45,000, and has a payroll amounting to \$6,000 annually.

The fruit drier (owned by C. H. Adamson) received during the past year 1,000 tons of green fruit, shipped 142 tons of dried fruits, re-cured 20 tons of dried fruits, manufactured 1,000 gallons of cider and 25,000 gallons of vinegar. Seventy persons are employed in this drier, and its annual payroll is about \$20,000.

#### MARIN COUNTY.

As stated in my report for the year 1893, the principal industry of this county is dairying. There are at present 26,104 milch cows in the county. There were 3,915,600 pounds of butter made in this county during 1894, which sold at an average of 19 cents per pound net, which makes a return of \$743,964. The old method of making butter is still carried on to a great extent, but the establishment of a number of creameries throughout the county is a great improvement, and the success attending the same warrants me in saying that many more will be erected in the near future. The first creamery to be built was the Novato Creamery, which was operated under the management of the California-Nevada Creamery Company. During its first season it

handled over 22,000 pounds of milk per day (in the spring of the year), or, in other words, the product of 1,100 cows. This creamery has passed into the hands of the Burdell Creamery, and at the present time is only handling 2,750 pounds of milk per day. The difference between 2,750 and 22,000 pounds of milk per day is accounted for by the fact that the dairies around and about Novato are daily shipping their milk to San Francisco. Daily shipments of milk to San Francisco are as follows: 600 gallons from Novato, 200 gallons from Burdell's, 450 gallons from Ignacio, and 150 gallons from Reed's; from Marshals, Tomales, Point Reyes, Olema, etc., a vast amount of milk is also shipped to San Francisco, for family use.

The next creamery to be built was the Fallon Creamery, at Griffin's Station. This is a very large plant, and its product is considered "the butter" of the State. In the busy season this creamery handles 14,000 pounds of milk per day.

The next creamery to be built in the county was the Burdell Creamery. This creamery operates three skimming stations, and in the coming spring expects to handle 40,000 to 45,000 pounds of milk per day.

In addition to this, many of the large dairies throughout the county operate "separators" of their own.

Before concluding this report on Marin County, I would state that very little of the wheat, corn, barley, oats, or hay is shipped out of the county, being raised principally for home use.

All of which is respectfully submitted.

THOMAS MACLAY,  
Secretary.

## REPORT

FROM THE

## FIFTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of San Mateo and Santa Clara,

FOR THE YEAR 1894.

**Officers.**—Philo Hersey, President; S. G. Benson, Secretary; Garden City Bank and Trust Company, Treasurer.

**Directors.**—Philo Hersey, San José; George B. Polhemus, Coyote; James W. Rea, San José; T. S. Montgomery, San José; T. W. Hobson, San José; W. Z. Price, Redwood City; James T. Rucker, San José; Paul P. Austin, San José.

SAN JOSÉ, January 1, 1895.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Fifth District Agricultural Association submit this, their report of said association, for the year ending this date:

## GENERAL FUND.

*Receipts.*

Balance due Treasurer, as per last report.....		\$1,243 37
From entries and forfeits.....	\$4,583 75	
From gate receipts.....	3,071 00	
From State appropriation.....	3,000 00	
From pool privileges.....	1,922 30	
From bar and other privileges.....	1,500 00	
From programme privileges.....	55 00	
From rent of grounds.....	323 60	
From rent of stalls.....	416 20	
From collections for National Trotting Association.....	688 14	
From sale of hay.....	117 70	
From rebate of interest on overdraft.....	29 30	
From grand stand fund for printing.....	15 00	
From rent of ball grounds.....	100 00	
		<hr/>
		\$15,821 99
From overdraft.....		1,105 97

*Disbursements.*

		\$18,171 33
Balance due Treasurer, as per last report.....		\$1,243 37
For purses.....	\$9,211 07	
For care and improvement of grounds.....	757 00	
For care of track.....	639 75	
For help, Fair week.....	845 50	
For premiums.....	1,723 50	
For wood and wood-cutters.....	108 40	
For printing.....	156 10	
For insurance.....	215 85	
For interest on notes and overdraft.....	386 50	
For postage and expressage.....	32 90	
For taxes.....	644 47	
For advertising and bill posting.....	178 75	



For hay and straw, Fair week .....	\$307 80	
For expense of hay crop .....	223 50	
For Secretary's services, to November 1, 1894 .....	300 00	
For repairs waterworks and tools .....	92 89	
For National Trotting Association, membership fee .....	75 00	
For National Trotting Association, suspensions collected .....	688 14	
For experting books, 1893 .....	15 00	
For diagram of grounds .....	10 00	
For luncheons for Directors and committees .....	72 80	
For expenses Secretary's trip to Sacramento and Stockton .....	16 55	
For tanbark .....	10 00	
For refreshments, Judges' stand .....	27 75	
For band and wagon, Fair week .....	155 00	
For watchman during running horse meeting .....	20 00	
For sundries .....	13 74	
		<u>\$16,927 96</u>

*Summary.*

Due Treasurer .....		\$1,243 37
Total disbursements .....	\$16,927 96	
Total receipts .....	15,821 99	
		<u>\$1,105 97</u>
Due Treasurer .....		\$2,349 30
Total amount due Treasurer .....		<u>\$2,349 30</u>

## GRAND STAND FUND.

*Receipts.*

Balance in hands of Treasurer, as per last report .....		\$433 44
From admissions, Fair week .....	\$770 50	
From admissions, running horse meeting .....	46 75	
From San José Road Club .....	43 00	
		<u>\$860 25</u>

*Disbursements.*

Note No. 18, purchased from W. P. Dougherty estate .....	\$100 00	
Note No. 20, purchased from Leonora E. Flag .....	100 00	
Note No. 25, purchased from J. A. Clayton .....	100 00	
Interest on 26 notes, \$10 each .....	260 00	
Insurance .....	100 00	
Help during Fair .....	84 00	
General Fund, on account printing Fair tickets .....	15 00	
Help during running horse meeting .....	14 50	
Tickets, running horse meeting .....	5 00	
		<u>778 50</u>
Balance in hands of Treasurer .....		515 19

*Summary.*

		<u>\$1,293 69</u>
Balance in hands of Treasurer .....		\$433 44
Total receipts .....	\$860 25	
Total disbursements .....	778 50	
		<u>81 75</u>
Balance in hands of Treasurer .....		\$515 19
Total balance in hands of Treasurer .....		<u>\$515 19</u>

## FUTURITY FUND.

*Receipts.*

Balance in hands of Treasurer, as per last report .....		\$455 00
Champion Stake—17 payments at \$10 .....	\$170 00	
Champion Stake—8 payments at \$15 .....	120 00	
Champion Stake—3 payments at \$30 .....	90 00	
Capital Stake—17 payments at \$5 .....	85 00	
Capital Stake—12 payments at \$5 .....	60 00	
Fruitmen Stake—17 payments at \$5 .....	85 00	
Fruitmen Stake—11 payments at \$10 .....	110 00	
Mt. Hamilton Stake—18 payments at \$5 .....	90 00	
Mt. Hamilton Stake—16 payments at 10 .....	160 00	
		<u>970 00</u>
		<u>\$1,425 00</u>

<i>Disbursements.</i>		
Champion Stake .....	\$500 00	
Balance in hands of Treasurer.....	925 00	
		<u>\$1,425 00</u>
<i>Summary.</i>		
Balance in hands of Treasurer.....		\$455 00
Total receipts .....	\$970 00	
Total disbursements .....	500 00	
		<u>470 00</u>
Balance in hands of Treasurer.....		
Total balance in hands of Treasurer.....		<u>\$925 00</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 5.

### (Santa Clara and San Mateo Counties.)

District Agricultural Association No. 5 comprises the counties of San Mateo and Santa Clara, neither of which can be classified as agricultural in the ordinary application of the term; San Mateo from the fact that it has no large body of land suitable to the cultivation of cereals, and furthermore that its contiguity to San Francisco renders its available valley acreage so valuable for suburban homes as to make it unprofitable for ordinary farming ventures. The same is largely true of Santa Clara County, where the growing of field crops has dwindled to insignificant proportions, the large ranches having for the most part been divided into tracts ranging from 10 to 40 acres, upon which are grown fruits, grapes, nuts, berries, or vegetables, instead of the wheat, oats, barley, and hay of a few years ago.

#### SAN MATEO COUNTY

Has an area of something over 300,000 acres, a considerable proportion of which is mountainous or hilly, while on its northerly or bay side there are some 20,000 acres of salt marsh. The valley portion, and many of the hillsides and plateaus, are very fertile, but from their limited extent and from other causes already referred to comparatively little ordinary farming is done.

The leading industries of the county are dairying and vegetable gardening for the San Francisco market, both of which industries may yet be very largely developed. All kinds of fruits do well in the various portions of the county, but the plantings up to this time have been mostly for family use, and the exports are nominal.

The county is noted as being the location of some of the best known breeding farms in the State, both of horses, cattle, and swine.

#### SANTA CLARA COUNTY

Is larger in area, comprising 1,120,000 acres. Its principal resource is the growing of fruits, nuts, grapes, berries, market gardening, etc., though within its borders several million dollars are invested in live stock farms and their studs and herds, and the cereals and hay are cultivated to some extent.

The figures gleaned from the books of the County Assessor as to the number and value of horses, cows, etc., are so nearly identical with those of last year's report as to be uninteresting. The total number of fruit

trees assessed, however, is 3,415,095, an increase since last year of 304,850, which is equivalent to fully 3,000 increase of acreage, and this brings the total area in fruit to about 34,000 acres, something over one half of which is in bearing. About 12,000 acres additional are in table and wine grapes and berries; about all in bearing. The young trees planted last spring were about equally divided between prunes and apricots.

The comparatively light rainfall of the winter of 1893-4 gave rise to apprehension that the fruit crop might be curtailed thereby, but this fear does not seem to have been warranted. In prunes alone there seems to have been a slight falling off in production, but it must be borne in mind that the crop of this fruit in 1893 was phenomenally heavy.

Prices of fruits and fruit products were materially lower than in 1893, and yet for the orchardists and other tillers of the soil in Santa Clara County 1894 was a prosperous year.

In the matter of orchard extension for Santa Clara Valley many intelligent growers are now giving especial favor to the apricot, as the territory in which it will do well is more limited than that suited to many other fruits. The cultivation of shipping pears may also be extended. Of new fruits the list is not large, yet something could be done in improving and introducing the loquat, pawpaw, guava, date, and possibly others in which a trade may eventually arise. There is also much room for the extension of the planting of olive and nut-bearing trees, all varieties of which do well here.

The Persian fat-tailed sheep has been successfully bred by C. P. Bailey of San José, who achieved such marked success with his Angora herds, and has proved to be a great improvement in mutton stock. They will doubtless be found a valuable addition to the grazing districts of the State.

The total shipments for 1894 were 106,950,715 pounds, as against 97,781,265 pounds for 1893, or a net gain of 9,169,450 pounds.

This despite the short crop of prunes and the fact that a very large per cent of the season's pack is still held in the hands of growers or exchanges.

The following figures represent the overland business east-bound from San José during 1894:

	Pounds.
Canned fruits .....	20,766,910
Green fruits .....	27,032,235
Dried fruits—	
Prunes .....	25,604,420
Peaches .....	2,490,900
Apricots .....	4,975,890
Pears .....	428,345
Plums .....	305,850
Grapes and raisins .....	73,365
Other dried fruits .....	218,310
	34,097,080
Wine .....	19,635,140
Leather .....	834,925
Garden seed .....	811,740
Wool and mohair .....	211,220
Powder .....	199,485
Beer .....	603,835
Grape juice .....	288,720
Potatoes .....	445,110
Beans .....	152,200
Barley .....	515,070
Bituminous rock .....	911,050
Miscellaneous .....	545,995
Total .....	106,950,715



These figures are good only that they show the volume of business moved during the year beginning January 1st and ending December 31st, and are of no particular value to growers or others interested in the output for the season of 1894, as a great deal of last season's product is included in these figures, being shipped after January 1st.

The following figures, which represent the shipments of fruits, wine, and garden seed for the seasons of 1890 to the present, from July 1st to the close of the year, are better for making comparisons, and are official:

July 1st to Dec. 31st.	Canned Fruits.	Green Fruits.	Dried Apricots.	Dried Peaches.	Dried Prunes.	Other Dr'd Fr'ts.	Wine.	Garden Seed.
1890 .....	16,215,170	11,768,810	1,594,400	517,370	11,205,765	848,650	716,545	220,470
1891 .....	15,702,120	13,118,075	4,668,635	748,310	19,212,265	526,580	1,162,155	292,070
1892 .....	16,936,340	15,808,545	1,787,580	554,990	14,464,340	445,790	3,919,390	520,150
1893 .....	10,310,760	22,564,175	3,568,565	2,554,290	30,555,250	511,850	6,424,645	652,505
1894 .....	15,779,980	25,580,240	4,881,705	2,736,500	17,286,380	885,190	9,762,305	786,115

The decrease in shipments of dried prunes from last year's figures is over 13,000,000 pounds, but in no other commodity is there a decrease. The figures representing the shipments of green fruits and wine show a gradual and very decided increase for each year over the preceding year's shipments, beginning in 1890 with 11,768,810 pounds green fruits, and ending with 25,584,240 pounds for the year 1894.

S. G. BENSON,  
Secretary.

## REPORT

FROM THE

## SIXTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Los Angeles,

FOR THE YEAR 1894.

**Officers.**—J. C. Newton, President; Lewis Thorne, Secretary; First National Bank, Treasurer.

**Directors.**—Major S. N. Androus, Pomona; Major A. W. Barrett, Los Angeles; R. R. Brown, Los Angeles; George Hinds, Wilmington; J. C. Newton, South Pasadena; D. G. Stephens, Los Angeles; E. T. Wright, Los Angeles; W. H. Wiley, Pasadena.

LOS ANGELES, November, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Sixth District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Balance on hand .....	\$3,859 69
From gate receipts .....	9,868 15
From sale of privileges .....	8,579 50
From exhibitors' tickets .....	250 00
From grand stand receipts .....	1,310 15
From grand stand boxes .....	184 00
From entrance fees .....	2,359 50
From rent of Park, etc. ....	813 50
From colt stakes .....	160 00
From State appropriation .....	3,000 00
From sundries .....	31 60
	<hr/>
	\$30,416 09

## EXPENDITURES.

Paid for new grand stand and improvements .....	\$11,880 70
Paid for Secretary and Directors .....	1,305 00
Paid for payroll .....	1,233 35
Paid for advertising .....	933 55
Paid for insurance .....	444 30
Paid for water .....	192 30
Paid for purses .....	10,635 50
Paid for premiums .....	2,397 50
Paid for taxes .....	78 70
Paid for attorney .....	100 00
Paid for band .....	140 00
Paid for sundry expenses .....	257 79
Paid for hay .....	66 00
Balance on hand December 1, 1894 .....	751 40
	<hr/>
	\$30,416 09

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 6.

(Los Angeles County.)

Like most other counties in the State of California, Los Angeles suffered in agricultural and horticultural products during the past year, all for the lack of rain; in other words, 1894 will be known as the dry year. Notwithstanding the dry year the shipments of citrus fruits have been about the same as in previous years, while in deciduous fruits the shipments have exceeded other years, especially in dried fruits, which is becoming quite an industry in this county. The walnut crop was above the average, and a large acreage is coming into bearing every year. Vegetables have been on the increase, and this winter will see quite a business in that line, as the railroads have specially fitted up cars for Eastern shipments. Our Eastern friends will surely enjoy new potatoes, cabbage, cauliflower, green peas, string beans, tomatoes, etc., at Christmas time, and the agriculturists of this county are trying to supply them. The Cudahy Packing Company have somewhat enlarged their premises during the past year and are now turning out large quantities of cured meats. The hog industry has increased about one half during the year.

*New Oil Fields.*—For years the great drawback in establishing manufacturing in Los Angeles has been the high price of fuel. If the oil developments recently made within its corporate limits continue, Los Angeles will soon be able to purchase fuel as cheap as any city in the United States. The developments of the past few months within the city limits have assumed the proportions of a boom, and interest is growing from day to day as new wells are bored. In several sections, near Los Angeles City, the existence of oil wells has been known ever since the early Mexican days. In connection with these springs have always been found deposits of asphaltum or brea. Thousands of tons were shipped from Los Angeles County to the north in former years, it being taken from the Prea ranch, west of the city. Years ago a well was sunk on this ranch to a depth of about 1,400 feet, and oil was found in abundance, but there was no local market for it at that time. About ten months ago an oil well was sunk near the Second Street Park, a little less than a mile from the business center, and by pumping it gave a good yield. Other wells were put down, until to-day there appears a forest of oil derricks standing over one hundred or more wells. These wells are shallow; the deepest one is little over 1,100 feet, while some are less than 200 feet. The daily yield of oil from these wells is about 700 barrels. The average yield of the wells that are well managed is about 10 barrels per day, while some of the wells yield from 20 to 40 barrels daily. The oil is considered a heavy oil and more suited for fuel than for refining; it sells at about \$1 25 per barrel. It is estimated that  $3\frac{1}{2}$  barrels of oil is equal to one ton of soft coal for the manufacture of steam. This brings coal down to less than \$5 per ton, to say nothing of the saving of expense of handling the oil as compared with the cost of handling the coal.

These wells are confined to a small area of territory, most of them being found on a tract not over 20 acres in extent; in some cases four or five wells can be found on a single lot. Oil wells are not confined to



the city alone; the foothills all around Newhall have more or less oil in them.

The Pacific Coast Oil Company's output is estimated at 1,000 barrels a day. This oil is considered about the best on the coast for refining purposes, having that greenish tinge so much sought after by all oil-well borers. At Puente there is a number of wells, all good producers. This oil is mostly used in Los Angeles City for fuel, while all of the Newhall oil is shipped to Oakland, and there refined.

It is difficult to overestimate the value of the industry in this county should it develop, as now appears probable. The price of oil for fuel has already fallen almost one half, and there has been a considerable reduction in the price of coal. With oil at the equivalent of \$2 50 per ton for coal, which we shall have if the production continues to increase as at the present time, there would then be no doubt about our manufacturing.

*Manufactories.*—During the year a large rolling mill has been added to our manufactories, while several of our factories have been enlarged. There is room for more, however, and Los Angeles will always welcome new manufactories.

L. THORNE,  
Secretary.

# REPORT

FROM THE

## SEVENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Monterey,

FOR THE YEAR 1894.

**Officers.**—J. D. Carr, President; John J. Kelly, Secretary; Wm. Vanderhurst, Treasurer.  
**Directors.**—J. D. Carr, Salinas City; J. B. Iverson, Salinas City; H. S. Ball, Salinas City; M. Lynn, Salinas City; C. Z. Hebert, Salinas City; S. W. Conklin, Salinas City; A. Wideman, Gonzales; J. A. Trescony, San Lucas.

SALINAS CITY, October 11, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Seventh District Agricultural Association submit this, their report of said association, for the year ending this date:

### RECEIPTS.

Rent of Pavilion .....	\$125 00	
Sale of privileges .....	610 00	
Single admission tickets .....	685 00	
Annual membership tickets .....	340 00	
Season tickets .....	42 00	
Hack badges .....	74 00	
Entrance and stake money .....	1,030 00	
Amount now overdrawn .....	2,286 42	
		<u>\$5,192 42</u>

### EXPENDITURES.

Premiums and purses .....	\$3,193 00	
Printing and advertising .....	272 50	
Gas and water .....	52 80	
Music .....	185 00	
Insurance .....	82 50	
National Trotting Association .....	25 00	
Freight, expressage, postage, and hauling .....	14 00	
Labor .....	625 70	
Materials .....	349 92	
Salinas City Bank, overdraft .....	392 00	
		<u>\$5,192 42</u>
Amount overdrawn .....	\$2,286 42	
Amount to be received from State warrant .....	1,750 00	
Amount overdrawn after receipt of State warrant .....	\$536 42	

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 7.

## (Monterey County.)

Monterey County is almost 100 miles south of San Francisco, between parallels  $35^{\circ} 45'$  and  $37^{\circ}$  north latitude. It has an area of over 3,600 square miles, or more than 2,300,000 acres of land; is four times as large as the State of Rhode Island, twice as large as Delaware, and one fourth larger than those two States combined, which have a population of over half a million people.

Monterey County's products are more varied than either of these States, her soil is more fertile, her climate more equable, salubrious, and healthful; yet her population does not exceed 20,000.

The county consists of the Salinas Valley and the intercepting valleys from the coast, and numerous cañons and vales that delve our mountain ranges. The soils of the valleys are as varied as the area is extended. It may be said that the soils of the county vary from the richest sediment in the valley to places where rocks crop out in the mountains. The Salinas Valley, while comprising the greater part of the farming land of the county, is not the only valley. The Carmel, San Antonio, and Nacimiento Rivers all form valleys of considerable area and wonderfully fertile soils. Peachtree, Indian Valley, Priests Valley, that portion of the Pajaro which is in Monterey County, and other valleys, besides numerous plateaus, contribute to the area of tillable land. The vast mountain area of 1,500 square miles, from a superficial glance would appear to be valueless; but a closer inspection would prove that most of it is good grazing land, and much of it adapted to agriculture. A careful estimate places the amount of farming land within this seemingly waste territory at 150,000 acres.

The principal products are wheat, barley, and sugar-beets. Hay is also a prominent product; and beans, potatoes, oats, buckwheat, mustard, rye, corn, peas, and other vegetables, melons, citrons, oranges, and deciduous fruits, grapes, berries, olives, almonds and other nuts, etc., are successfully raised.

The Gabilan Mountains contain immense deposits of limestone and some of the finest coal prospects in the State. Quicksilver, gold, and silver have been found in small quantities. Los Burros is the real gold-producing section of our county. Its riches are unquestioned, but capital has been timid in developing this region. Cinnabar prospects have been found in the Santa Lucia range, and on the coast sixty miles south of Monterey is one of the largest lime kilns in the State. There are also some tracings of coal, evidences of petroleum, and a large deposit of asphaltum.

The raising of sugar-beets has become quite an important part of our industry. The yield for the present year will approximate 85,000 tons. This vast yield is sent to the Watsonville sugar factory. The average yield per acre is between 25 and 30 tons. They sell at the factory for \$4 50 per ton.

The fruit industry of our county, while yet in its infancy, is developing, and gives indications that at no distant period our people will take advantage of the splendid opportunities offered by the natural resources in this direction. The widest range of fruits will flourish and mature



to healthy growth. The orange, the lemon, the lime, the apple, the peach, etc., each develops to a high grade of perfection.

Our grain yield has often been commented upon; the soil apparently is never exhausted; the quality and quantity remaining a flattering average and a source of profitable revenue to our county.

The Burbank potato raised here is still at the top of the market, and thousands of sacks are sent to San Francisco as well as to other points of the State.

Dairying is an increasing industry. There are now about 80 dairies, milking between 1,500 and 2,000 cows. From Salinas station there were shipped last year 1,403,000 pounds of butter, 250,200 pounds of cheese, 112,000 pounds of poultry, and 188,400 dozen eggs.

Stock-raising, while years ago a leading industry of Monterey County, is gradually on the wane. The Assessor's report shows the following figures: 8,600 cows, 20,000 stock cattle, 7,000 calves, 6,000 hogs, 15,000 sheep, 20 thoroughbred horses, 40 standard-bred horses, 2,000 American horses, 6,000 common horses, and 60 jacks and jennies.

Outside of the Sperry Flouring Mill, which annually manufactures in the neighborhood of 150,000 sacks of flour, manufacturing is undeveloped.

JOHN J. KELLY,  
Secretary.

## REPORT

FROM THE

## EIGHTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of El Dorado,

FOR THE YEAR 1894.

**Officers.**—G. J. Carpenter, President; Shelley Inch, Secretary; James Blair, Treasurer.  
**Directors.**—G. J. Carpenter, Placerville; S. G. Beach, Placerville; Isaac Eddy, Placerville; George Hofmeister, Placerville; J. P. Allen, Placerville; D. H. Holdridge, Placerville; William Lyons, Latrobe; Robert McKay, Coloma.

PLACERVILLE, November 19, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Eighth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
From daily tickets of admission .....	\$359 20	
From proceeds (net) of ball .....	39 50	
From State appropriation .....	2,000 00	
From donations .....	348 33	
		<u>\$2,747 03</u>
EXPENDITURES.		
For Superintendent of Park and Pavilion .....	\$70 00	
For music, printing, etc. ....	172 25	
For salary of Secretary .....	100 00	
For rent of Park and Pavilion .....	80 00	
For Pavilion expenses, per Superintendent's account .....	100 50	
For hay and watchman at Park, per Superintendent's account ..	52 12	
For stationery, stamps, etc. ....	12 00	
For clerk hire at Pavilion and Park .....	35 00	
For printing and advertising, etc. ....	10 75	
For drayage, lumber, sawdust, etc., at Pavilion .....	24 37	
For ice at Pavilion .....	7 04	
For sundry other Park expenses .....	7 80	
For interest on premiums paid .....	54 00	
For premiums paid .....	2,011 20	
For lighting Pavilion with electricity .....	10 00	
		<u>\$2,747 03</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 8.

## (El Dorado County.)

*Pasturage and Stock-Raising.*—The resources of El Dorado County, known to exist, are largely undeveloped. Valued by possibilities of occupation and use, they can only be approximated. They are co-extensive with the 1,800 square miles of territory, about one half of which is most valuable for stock-raising and grazing purposes. Of the 60,000 sheep that feed and fatten on the summer ranges of El Dorado, more than 50,000 are owned and wintered elsewhere. So, also, the 9,826 cows, stock cattle, and calves, owned and assessed within the county, are outnumbered by the migrating herds that are yearly driven in and out by non-resident owners. To say nothing of horses and other live stock pastured on the green slopes and mountain meadows of El Dorado, the foregoing facts and figures will sufficiently indicate the extent of coveted resources only partially utilized.

*Timber Lands and Lumbering.*—Passing from one to another of our infant industries, we are bewildered by forests from which cities and towns are yet to be built. Along their western skirts from 15 to 20 miles east of Placerville, eight lumber firms and individuals, namely: J. & J. Blair, Mariner, Snow & Co., J. Bryant & Co., E. V. Davenport & Sons, R. Demuth & Sons, Grover & Benjamin, Geo. Handy, and William Barklage, are manufacturing large quantities of the choicest lumber. The Blairs and Mariner & Snow manufacture nearly 2,000,000 and the other six parties named about 4,000,000 feet per annum. In the same line of enterprise, but by different methods, the American River Land and Lumber Company has invested large sums of money in timber lands on the Georgetown Divide, and is paying \$50,000 per annum for labor. For transporting logs to the river and thence to its mills at Folsom, it has  $9\frac{1}{2}$  miles of railway and equipments, upon which it pays taxes on the sum of \$17,250.

*Acres in Cereals; Number of Fruit Trees; Shipments, Etc.*—By clearing and fencing some of the best lands in the grain and apple belt, lumbering operations are gradually enlarging the farming districts of the county. The number of acres in cereals in 1894 was as follows: Wheat, 2,000; oats, 1,200; barley, 1,800; in hay, 6,000. Acres in grapevines, 2,363, of which 1,125 were non-bearing. The number of fruit trees of all varieties reported to the Assessor in 1894 was as follows: bearing, 182,110; non-bearing, 87,000. In both classes and of each variety the number of trees was: apple, 25,200; peach, 126,200; pear, 65,000; French prune, 29,200; prunes of other varieties, 8,250.

Omitting deciduous and citrus trees not so extensively cultivated, such as apricot, cherry, fig, olive, lemon, orange, almond, and walnut, and their products, it goes without repeating that fruit growing is among the chief industries of the county. In the lines indicated, it has produced an increasing surplus, which has been partly unloaded on Eastern markets. Thus the shipments from the Placerville packing-houses, for 1894, computed in pounds, and compared with those of 1893, were as follows: Green fruit, 4,176,600, increase 913,540; dried fruit, 356,200, increase 56,800; wine grapes, 150,400, increase 85,200.

Some of these shipments were to the most distant American markets, by the longest all-rail hauls on the Continent, in competition with



Eastern shippers by shorter routes. The only wonder is, that subject to ordinary laws of trade, they have not oftener resulted in discouraging losses. In the absence of some process by which green fruit can be made more portable and less perishable, home markets created by manufacturing and mining enterprise would be the only way of escape from a condition heretofore only aggravated by false theories.

*Quartz Mining in Its Relations to Agriculture.*—The patrons of husbandry begin to realize that the miner is a member of their business household; and that farming and mining are related industries. Their relative value is not so material as their mutual encouragement and promotion. Injunctions and penal statutes, that made enterprise a crime, and the gold in hydraulic mines forbidden fruit, left the miner with nothing to eat, and the farmer with his mouth for a market. With millions thus locked up in patented and otherwise valuable claims, quartz mining was the resort. In this county, with few exceptions, it was a suspended industry. Without the Beale prospecting drill now in use, or present processes for reducing rebellious ores and working sulphurets, former experiments had been costly and discouraging. But with them, quartz mines virtually abandoned have been converted into paying and valuable properties. Of these the Idlewild, the Gentle Annie, the Grand Victory, the Church, and the Big Cañon are conspicuous examples. They show what competent management and the latest appliances can accomplish. Mills with from ten to fifty stamps, chlorination works and Frue concentrators have developed inexhaustible ore bodies, that pay from \$10 to \$50 per ton. While the owners of these plants are multiplying stamps and pressing good fortune, the Havilah, Richmond, Wilshire, Pocahontas, Shaw, and Dalmatia are all blooming into model mining plants. The Pacific and the St. Lawrence with their deep workings and developments, and later locations not so well known or prospected, are preparing to join in the movement. And it is confidently believed that in less than a year a thousand men and five hundred stamps will be at work on the quartz mines of the county.

Back of mining, agricultural, manufacturing, and all other industries requiring water or electric power, and running with them, there are 360 miles of canals and ditches, valued at \$128,435, and intrinsically worth three times that sum.

Of what might fill a book, the foregoing is but a small part.

SHELLEY INCH,  
Secretary.

# REPORT

FROM THE

## NINTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Humboldt,

FOR THE YEAR 1894.

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**Officers.**—S. F. Pine, President; Geo. Underwood, Secretary; L. Feigenbaum, Treasurer.  
**Directors.**—John Bull, Jr., Arcata; S. F. Pine, Eureka; I. A. Russ, Ferndale; Thomas Greig, Fortuna; Walter A. Scott, Ferndale; W. S. Lamb, Rohnerville; B. H. McNeil, Rohnerville; William Dinsmore, Alton.

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ROHNERVILLE, October 29, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Ninth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.	
From grand stand.....	\$101 40
From ball.....	110 50
From gate.....	1,659 30
From privileges.....	687 50
From entrance fees.....	119 00
Amount due on real estate.....	400 00
Amount borrowed, secured by Directors' note.....	955 25
State warrant.....	2,250 00
	\$6,282 95

EXPENDITURES.	
For premiums.....	\$1,169 50
For purses.....	773 00
For real estate.....	400 00
For Secretary's services.....	150 00
For music.....	175 00
For hay and feed.....	155 00
Paid on note and mortgage.....	600 00
Interest on note and overdraft.....	346 50
For printing and advertising.....	330 05
For miscellaneous and overdraft (1893).....	2,183 90
	\$6,282 95

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 9.

## (Humboldt County.)

Humboldt County is truly favored. The sumptuous variety of climate; the illimitable pastures of strong and nutritious native grasses, upon which stock feed every month in the calendar year; valley regions of the most fabulous productiveness; uplands that grow oats 45 pounds to the bushel and 120 bushels to the acre; sheltered localities where apples and figs ripen together; a regular and ample rainfall, making a failure of crops impossible and unknown; conditions that produced dairy products to the value of \$1,000,000 this year; and incomparable forests, that at the present rate of using, 160,000,000 feet annually, will last two hundred years, and with the removal of which a soil is made available for the greatest possible diversity of crops—surely, we are richly endowed by nature.

The soil and climate of no country offer better inducements. Humboldt produces successfully, in large quantities and of superior quality, all the garden vegetables, small fruits, cherries, pears, peaches, plums, prunes, and apples. In the eastern part exists a thermal belt, where fruit and vegetables common to the famed southern country flourish. The fig, apricot, grape, and nectarine here attain a degree of perfection not surpassed in the semi-tropical parts of the State. The superiority of our fruit for canning purposes is evidenced by the first experiment, which made a demand at once for all that could be produced and at the highest prices.

Our apples are notorious for their size, flavor, beauty, and keeping qualities. In competition with others at the State Fair, ours have, in every case, received first prize. New industries are springing up to utilize that portion (windfalls, etc.) which cannot be shipped. The fruit is dried, converted into cider, apple butter, jellies, etc. John Monroe, of Fortuna, who has a bottling establishment, last year made a start by using three hundred boxes of apples for cider, apple syrup, apple jelly, and pickles, which satisfied him that herein lies a new and profitable field of labor. Frank Dutton, an experienced drier, has put in a plant, at a cost of \$3,500, near Fortuna, and is at present using four tons of green apples daily, and employing twelve hands. In the course of a few years many young apple trees will come into bearing, and the apple product will be conspicuous in the exports of the county. Lack of transportation facilities will necessitate drying.

The amount of prunes dried this year has been large, but statistics are not available. There has been a splendid crop this year to offset the loss of lumber trade; at the same time the dairy products have assumed gigantic proportions. Four large, new creameries and two cheese factories, equipped with all the modern appliances, have been erected this year, making the total of creameries thirty, which, with the many private dairies, it is estimated will run up the butter product to a million dollars. Many run the entire year, one at Arcata using 18 tons of milk daily. To give some idea of the money to be made on small dairy farms, the private account of Con O'Mara, a dairyman near Ferndale, will be used: His ranch, of 76 acres, is about one half in clover. Last year 40 cows were milked. The sales in cash were: butter in rolls, 5,248 pounds; packed, 4,602 pounds; total, 9,850 pounds, valued at



\$2,283; hogs, \$330; calves, \$60; beef, \$118. Expenses are represented by the wages and board of two men through the year; feed, \$220. Net profits nearly \$2,000, with an accumulation of stock and little exhaustion of the soil.

The annual rainfall of about forty inches, the prevailing humidity near the coast, uniform temperature, rich soil, and vast areas that may be used for dairying, offer splendid opportunities for families.

This county claims the distinction of ranking first of all the counties of California in the production of lumber, peas, oats, and yield per acre of all the grains and potatoes; and in quality of products it ranks first in lumber, wool, leather, butter, oats, peas, and small fruits. Since the low prices in wool have prevailed, cattle are gaining the ascendancy in the hills, fully 3,000 beeves having been exported up to date this year.

New lands are opened up every year and there is about 10 per cent more land sown to oats, wheat, and barley than last year. It is impossible at this date to make any report of the exports this year. Appended are those of 1893 and other statistics prepared by the Chamber of Commerce.

*Leading Products of 1893.*

	Quantity.	Value.
Lumber .....	160,000,000 feet.	\$2,180,000
Butter .....	3,500,000 lbs.	700,000
Live stock and meat .....	5,694,000 lbs.	474,500
Hay .....	40,000 tons.	154,000
Oats .....	7,000 tons.	154,000
Leather .....	1,749 rolls.	104,940
Wool .....	641,502 lbs.	96,225
Apples .....	107,300 boxes.	80,481
Potatoes .....	6,500 tons.	78,000
Iron manufactures .....		70,000
Gold dust .....		60,000
Sandstone rock .....		50,000
Stone fruits and berries .....		50,000
Vessels built (3) .....		50,000
Fish .....	1,503,600 lbs.	37,570
Peas .....	12,000 tons.	36,000
Tobacco and cigars .....		25,000
Lesser grains and vegetables .....		71,643
Minor manufactures .....		50,000
Total .....		\$4,502,359

*Other Statistics.*

Area of Humboldt County .....	2,244,358 acres
Government land .....	789,476 acres
Land assessed .....	1,293,685 acres
Timber land .....	900,000 acres
Agricultural land .....	450,000 acres
Grazing land .....	600,000 acres
Marsh land .....	35,000 acres
Mineral land .....	125,000 acres
Redwood timber land .....	490,000 acres
Desert land .....	None
Coast line .....	140 miles
Population { In 1890 .....	23,469
{ In 1893 .....	26,133
Assessed valuation of property in 1892 .....	\$18,014,237
Number of taxpayers .....	5,610
Number owning real estate .....	5,134
Increase of wealth in ten years .....	179 per cent
Increase of population in ten years .....	51 per cent
Rate of taxation on each \$100 of assessed property .....	\$1 50
Debt of county .....	\$52,000
Number of school houses .....	89
Number of teachers .....	130
High school .....	1 in progress

Pupils .....	6,000
Churches .....	30
Secret, beneficial, and philanthropic associations .....	60
Industrial corporations .....	59
Lumber mills .....	25
Shingle mills .....	18
Moulding, door, and sash factories .....	5
Tanneries .....	3
Creameries .....	30
Cigar factories .....	3
Railroads .....	11
Miles of railroad .....	140
Vessels built since 1880 .....	54

At Eureka the thermometer ranges from 45° to 65°. Fuchsias and palms grow out of doors all winter. Ground never freezes.

GEORGE UNDERWOOD,  
Secretary.

# REPORT

FROM THE

## TENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Siskiyou and Trinity,

FOR THE YEAR 1894.

**Officers.**—Samuel D. Prather (Montague), President; Clarence S. Smith (Little Shasta), Secretary; Maurice Renner (Yreka), Treasurer.

**Directors.**—J. E. Harmon, Yreka; J. M. Walbridge, Yreka; Fred A. Autenrieth, Yreka; W. S. Stone, Yreka; J. T. Moxley, Fort Jones; Samuel D. Prather, Montague.

YREKA, December, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Tenth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.	
Balance on hand .....	\$84 67
Nominations .....	145 00
Subscriptions .....	697 50
Entries to races .....	250 00
Entries for premiums .....	130 00
Sale of badges .....	110 00
Gate receipts .....	255 50
Pavilion door receipts .....	21 75
Sale of privileges .....	135 00
Sundry resources .....	295 00
State appropriation .....	2,250 00
	\$4,374 42

EXPENDITURES.	
Purses paid .....	\$1,775 00
Premiums paid .....	1,569 00
Music .....	200 00
Printing .....	198 50
Hay and grain .....	139 08
Hall rent .....	75 00
Electric lights .....	16 25
Stationery .....	16 50
Postage, telegraphing, etc. ....	13 80
Repairs on building and grounds .....	125 00
Fitting up Pavilion .....	33 50
Secretary's salary .....	200 00
Other employes' salaries .....	64 00
Sundries .....	8 20
	\$4,433 83



## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 10.

(Siskiyou and Trinity Counties.)

*To the State Board of Agriculture:*

GENTLEMEN: In compliance with the laws of the State of California, I beg leave, as Secretary of Mount Shasta Agricultural Association, to submit as my report of the resources of the Tenth District, comprising the counties of Siskiyou and Trinity, the following:

From inquiry I learn that industries in Trinity County are up to the usual standard and that there is no marked change from my report of February, 1894.

As to Siskiyou, the writer has personally visited nearly every precinct in the county, and is pleased to report a marked activity in the mines and dairy interests.

At Hungry Creek, in Cottonwood District, many quartz ledges are being developed and some are paying well; some excellent placer prospects have also been found in the same vicinity. All along the Klamath from Henley to Happy Camp many river mines are paying well, viz.: American Bar, Gold Note at Henley, the China Claim and the Empire (quartz) at Virginia Bar, the Hubbard and the Jackson at Oak Bar, the Mapleson & Co. at Hamburg Bar. At Callahan's and Sawyer's Bar large ditches are being brought upon ground by rich companies, and as the gravel prospects well it is expected that large sums of yellow metal will be the results of these enterprises. J. D. Heard superintends the Callahan's mine and Frank Corbin is manager of the Sawyer's Bar claim. There has been much prospecting in quartz, principally by non-residents, and some very rich prospects have been located in the following mining districts: The Lewis & Co. mine at Oro Fino, bonded and sold in October; the Allen mine at Quartz Valley, bonded for ninety days; the Hamilton mine in Quartz Valley, paying well. In the vicinity of Black Bear and the Old Klamath mine several new ledges are being successfully worked. The Gold Ball mine shows rock, of which fairly one half is gold. The Hungry Hill and Red Hill both prospect well. The Smith & Spooner placer, on the South Fork of Salmon, is paying well, as are numerous smaller river claims on the same streams. Two very rich pockets have been reported to me: One 12 miles north of Yreka, on the Anderson grade, known as Fool's Paradise, named in honor of a man who discovered it, sold it for \$250, after which over \$10,000 was taken out within eighteen months. Another on the North Fork of Salmon, which yielded \$9 to the 100 pounds of rock. Humbug is also rich in quartz, but the placers at this place are nearly all worked out.

The agricultural products of Siskiyou County have been above the average in yield and quality, but the low prices prevailing have so disheartened farmers that it is quite probable a much smaller acreage will be sown next year.

Wheat is only 35 cents a bushel, and hay from \$4 to \$7 a ton, according to quality. More land will be seeded to alfalfa, as at present prices there is more profit in hay than in grain, while at the same time there is less cash expense in hay-raising than in grain-raising.

Dairying is fast taking the place of farming, especially in Scott Valley. During the year 1894 three new creameries have been erected and

equipped. The first was completed and set in operation during the month of September, at Greenville, half way between Fort Jones and Etna, in Scott Valley. The Directors gave a grand ball on the evening of September 21st, at which 182 tickets were sold. The total gross receipts were over \$500. This creamery is in successful operation. Capital stock, \$15,000.

The second creamery is located one mile east of Etna. It was completed in October, but has not yet been dedicated, nor will it be put in operation until next spring. Capital stock, \$10,000.

The third creamery is located at Edgewood, on the railroad. It is just finished, but will not be put in operation until next spring. Capital stock, \$10,000.

The experiment of boring for oil, begun last year by S. D. Prather, manager of the Shasta Land and Cattle Company, still continues, but developments in that direction are not flattering.

Large shipments of beef and pork (live) still continue from Montague and Gazelle.

The poultry industry is constantly growing, especially that of turkey-raising. While the numbers were much decreased by the inclement weather during April and May, the quality of the fowls has been greatly increased by the importation of improved breeds.

Sheep—well, don't mention one, or you will make the owner blush.

Respectfully submitted.

CLARENCE S. SMITH,  
Secretary.

## REPORT

FROM THE

## ELEVENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Plumas and Sierra,

FOR THE YEAR 1894.

**Officers.**—J. S. Carter, President; J. R. Murray, Secretary; W. C. Brown, Treasurer.**Directors.**—D. McIntyre, Greenville; J. S. Bransford, Quincy; J. S. Carter, Crescent Mills; Jacob Stephan, Quincy; L. Dolly, Sierraville; A. S. Nichols, Sierraville; H. Robinson, Loyalton; Horace Lewis, Loyalton.

GREENVILLE, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Eleventh District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
Balance from 1893 .....	\$11 89	
Subscription .....	2,800 00	
Proceeds of ball .....	50 00	
State appropriation, less discount .....	2,125 00	
Gate and door money .....	578 40	
Entrance money on horses .....	1,255 00	
Back entrance on horses .....	170 00	
		<u>\$6,990 29</u>

EXPENDITURES.		
Premiums .....	\$1,956 00	
Purses .....	2,921 50	
Music .....	250 00	
Advertising and printing .....	206 65	
Secretary's salary .....	150 00	
Treasurer's salary .....	50 00	
Sundry expenses .....	1,444 50	
Balance on hand .....	11 64	
		<u>\$6,990 29</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 11.

(Plumas and Sierra Counties.)

The Eleventh Agricultural District, comprising the counties of Plumas and Sierra, is situated on the western slope of the Sierra Nevada Mountains, between latitudes 39° and 41°. It extends from the summit of this range on the northeast and east, to the eastern boundaries of



Tehama, Butte, and Yuba Counties on the west, and forms the watershed of the Feather and North Yuba Rivers.

The soil of the valleys in both counties is generally black loam of great depth and almost inexhaustible fertility; instances being known to the writer where land has been sown to grain continually for forty years, and still produces large crops without fertilizers.

In all parts of the district, except perhaps some few places in Sierra Valley, there is an abundance of water for irrigation purposes, consequently such a thing as a failure of crops is never known. Almost all the farm houses have in close proximity some small mountain stream or spring which will furnish pure water, under any needed pressure, for protection against fire, power for churning, etc.

The streams, of which there are a great number in the district, are plentifully stocked with mountain trout, while grouse and quail abound in the wooded country. Deer are also usually quite plentiful, with occasionally a grizzly or cinnamon bear to add zest to the sport of the hunter.

We have in this district a number of mineral springs which have quite a local reputation as health resorts; prominent among which may be mentioned Campbell's Springs, in Sierra Valley, which are quite noted; there is also one in Mohawk and two in Indian Valley, besides others of less note scattered throughout the district, each of which has its patrons.

In speaking of the material advantages of this district, we must not overlook the railroad which is now in process of construction from Chat, on the line of the Nevada, California, and Oregon Railroad, westward through a great timber belt. When completed it will give an impetus to every industry in the district, besides creating one industry at least, to which we are now nearly strangers; that is, fruit-raising, which, when access to market is provided, can be carried on on hundreds of benches and foothills along the rivers, where the finest of fruits can be grown and which places are now unoccupied because of their isolation.

#### PLUMAS COUNTY.

Plumas County has an area of about 25,000 square miles, of which the greater part is mountainous and covered with a heavy growth of yellow pine, sugar pine, and fir. Owing to the lack of facilities for shipping the lumber, the larger part of this timber remains untouched, and even unclaimed, although with means for reaching the markets of the world it would be of immense value, as there is, in nearly every locality, ample water power which could be utilized to manufacture the timber into lumber at a minimum expense.

For several years after the first white men settled in the county, mining was the only business engaged in, supplies for miners being brought in from the outside. Mining is still one of our leading industries, although it is now principally quartz and deep-gravel mining instead of surface, as in early days.

We have also in this county, in addition to gold mines, large quantities of rich iron ore, notably in the vicinity of Mohawk Valley, where there is a veritable mountain of the richest iron ore; also a number of partially developed copper veins of exceeding richness, some of them showing pure copper in quantities. There are also several marble ledges

in the county; one, on the mountains between Genesee and Indian Valleys, produces a quality of marble which has been pronounced by experts to be the finest in the State.

Granite, susceptible of the highest polish, is also found in unlimited quantities in various parts of the county.

Under present conditions none of these, except the gold mines, can be profitably worked, but with transportation facilities they would add immensely to the resources of the county.

There are in this county, approximately, 175,000 acres of valley land. In Genesee, Indian, and American Valleys, which have an altitude of less than 3,500 feet, the land is devoted to the growth of hay, grain, apples, pears, plums, peaches, small fruits, and vegetables of all kinds, all of which grow to perfection. Sierra Valley is devoted to hay and grain, fruits and vegetables growing only in favored localities. Big Meadows, Clover, Humbug, Mohawk, Grizzly, and Butt Valleys are devoted to hay and grazing. The other valleys, of which there are quite a number, are used for grazing purposes only.

The assessment roll does not show the production of hay, grain, etc., in this county, but a careful estimate from the best sources shows the production to be as follows:

Hay .....	30,000 tons.
Grain (wheat, oats, and barley) .....	125,000 centsals.
Vegetables .....	200,000 centsals.

Should the demand justify it, the production of hay and grain could be easily doubled, while the production of vegetables and small fruits is limited only by the demand.

Dairying is one of the most important industries of the county; the herds being generally of the finest quality of Durhams, Holsteins, and Jerseys. The dairymen generally drive their herds to the higher valleys during the summer, where the cool climate and the rich natural grasses enable them to produce a quality of butter seldom equaled and never excelled. There are in this county about 3,500 cows, with an average annual output of 200 pounds per cow. The distance from market necessitates the packing of the bulk of the butter, and when we state that it is kept in that way for, sometimes, six months, or even a year, without impairing the quality, the excellence of the product will be better understood. The fact that butter can only be shipped out to market during the summer and autumn, at any reasonable cost, limits the production very materially—the policy of the dairymen being to reduce the output during the winter season to the requirements of the local market.

Stock-raising and hog-raising are carried on merely as incidents to dairying, although it is my opinion the latter could be profitably carried on on a large scale on our alfalfa and clover fields and with our cheap grain, as great quantities of bacon, hams, and lard are brought into the county every year.

The county can show a large number of fine horses; and, stimulated no doubt, in part at least, by the premiums given by the Agricultural Association, the farmers have for several years taken great pains to improve the breed and quality of their horses, until they probably excel anything in this part of the State, both for draft horses and roadsters. The low prices, due to the general depression, have caused a heavy falling off in the propagation of horses during the past year.

Quincy, the county seat, situated in American Valley, is one of the most beautiful of mountain towns; it is supported by mining and farming. Greenville, Crescent Mills, and Taylorville, in Indian Valley, are supported in the same way. All of these towns are supplied with water under pressure for protection against fire. Beckwith, in Sierra Valley, and Prattville, in Big Meadows, agricultural towns, will compare with any in neatness and beauty of surroundings. La Porte and Johnsville are supported exclusively by mining.

#### SIERRA COUNTY,

Which lies to the south of Plumas, has between 900 and 1,000 square miles of area, the greater part of which is mountainous; a portion of Sierra Valley, and a few smaller mountain valleys, constituting the valley area of this county.

This has always been one among the larger gold-producing counties of the State; the gravel channels near Forest City and Gibsonville, and the celebrated Sierra Buttes and Young America quartz mines, with a number of lesser note, furnishing a respectable portion of the gold output of the State.

The lumber-manufacturing industry of Sierra County is considerable. Several large mills are in operation at the head of Sierra Valley, the product of which is shipped by teams and steam wagons to the line of the Central Pacific Railroad. This is merely a bagatelle to what the output could be made with good facilities for shipping, as the mountains of Sierra, like those of Plumas, are covered with a heavy growth of the finest timber.

The greater part (in acreage) of the great Sierra Valley is in Plumas, but the most productive part lies in Sierra County, where great quantities of barley are grown each year, and large herds of cattle are fattened during the winter season on the fine hay produced there, and shipped thence to the San Francisco market. It is also devoted largely to dairying, some of the largest and finest dairies in the district being located there.

Downieville, the county seat, and Forest City and Sierra City, all considerable towns, are supported by mining; while the prosperous villages of Sierraville and Loyalton, in Sierra Valley, are dependent on agriculture for their trade.

J. R. MURRAY,  
Secretary.



## REPORT

FROM THE

## TWELFTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Lake and Mendocino,

FOR THE YEAR 1894.

**Officers.**—D. Alexander, President; H. A. McCraney, Secretary; Farmers' Savings Bank, Treasurer.

**Directors.**—D. Alexander, Upper Lake; J. M. Mannon, Ukiah; G. Scudamore, Lakeport; L. T. Day, Ukiah; J. S. Reed, Laytonville; H. A. McCraney, Lakeport; John Mewhinney, Ukiah; Wm. Hildreth, Ukiah.

LAKEPORT, November 19, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Twelfth District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Cash loaned by Ukiah.....	\$377 35
1346 admissions to Pavilion, at 25 cents.....	336 50
245 admissions to Bazaar, at 25 cents.....	61 25
Reserved seats, two nights.....	16 75
Sale of coupon tickets.....	80 05
Entry fees on sweepstakes.....	195 00
Receipts from ball.....	7 50
State appropriation.....	2,500 00
Donated by H. A. McCraney.....	150 25
	<u>\$3,724 65</u>

## EXPENDITURES.

Rent.....	\$100 00
Music, Lakeport Band.....	120 00
Mrs. A. M. Reed, address and expenses.....	48 00
Hay and lumber.....	92 95
Merchandise.....	55 00
Advertising.....	339 05
Teaming, livery, and straw.....	65 35
Stamps, and Directors' expenses to Ukiah.....	15 00
Printing and stationery.....	164 50
Labor.....	489 50
Secretary's salary.....	250 00
Treasurer's salary.....	50 00
Directors' expenses.....	62 00
Old accounts.....	17 00
Premiums.....	1,478 95
Paid loan to Ukiah.....	377 35
	<u>\$3,724 65</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 12.

(Lake and Mendocino Counties.)

## LAKE COUNTY.

Lake County has been well termed the "Switzerland of America," for, although her resources are numerous and varied, her chief attraction lies in the glorious climate, grand and magnificent scenery, beautiful lakes, and life-giving medicinal springs with which nature has endowed her. The soil is fertile and possesses wonderful productive powers; the hills and mountains are splendid stock ranges; timber is plentiful; minerals exist in large quantities; but the most attractive feature, and a source of considerable wealth, is in the springs and resorts which abound throughout the county. Thousands come annually, not only from other portions of the State, but from all over the world, seeking rest, recreation, and health in the salubrious climate and curative waters of the county.

Cereals and vegetables of all kinds are produced in large quantities and of the very best quality. Much attention has been devoted of late years to the growing of fruit, and large areas have recently been planted to prunes, pears, apples, and other fruits. Figs also grow to perfection, and oranges and lemons thrive in sheltered localities. Wine grapes of all varieties do well, and considerable capital is invested in wineries, the products of which command good figures in any market.

The breeding of fine stock has also become an important industry, and the average of stock in Lake County compares favorably with that of any other county in the State.

During the summer of 1894, one of the enterprising citizens of the county, as an experiment, established a cheese factory of moderate capacity, near the town of Kelseyville. It met with such success that the proprietor has decided to enlarge the capacity, and put in a full creamery plant as well. An ice factory will also be conducted in connection with it. Lakeport also has a creamery of good capacity, which runs the year round. And thus another industry has been inaugurated, and bids fair to become an important source of revenue to the producer.

Minerals of various kinds exist in unknown quantities. Quicksilver is extensively mined, and the supply is apparently inexhaustible. Asbestos of a fine grade and in large amounts has been discovered, but no steps have yet been taken to place it on the market. It is, however, only a matter of a few years when it will be numbered among the most important products of the county.

For a county of her area, Lake County is certainly greatly favored by nature, and possesses resources and attractions that will, ere many years, place her among the foremost interior counties of the State.

## MENDOCINO COUNTY.

This county is rough and mountainous, but contains many rich and fertile valleys, chief among which are the Sanel, Ukiah, and Round, through which the Russian River flows. One of the leading industries of this county is the cultivation of hops. Mendocino hops are

considered prime, as also is the wool produced there, the production of which, until recently, was the leading industry of the county.

Fruit is produced in many different parts of Mendocino, and profitably, too. The yield is not as great as in some portions of the State, but the quality is so much better that the fruit brings enough greater price to offset the difference in quantity. The prune industry has increased of late, the acreage having doubled within the past two years. Nearly all other kinds of fruit do well, also cereals and vegetables of all kinds. The climate is almost perfect, and a failure of crops, from any reason, is never known.

Stock-raising is carried on to a large extent. The hills and mountains are natural ranges, and feed grows all the year. The mildness of the winters does away with the necessity of feeding cattle and sheep.

The greatest resource, however, of this county, is the vast belt of redwood timber which lies along the coast. The sawmills throughout this district furnish employment to thousands of men, and Mendocino County lumber is shipped to all parts of the world. The manufacture of shingles, ties, posts, and pickets is an important adjunct to the lumber business; these articles are in great demand on account of their lasting quality.

Coal of a good quality, and in paying quantities, has recently been discovered. The coal fields will shortly be opened up to the outside world, as a railroad is now being built from the coast to tap them.

The resources of Mendocino County are as varied as extensive, and, when fully developed, will insure for her people great prosperity.

H. A. McCRAVEY,  
Secretary.



# REPORT

FROM THE

## THIRTEENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Yuba and Sutter,

FOR THE YEAR 1894.

**Officers.**—G. W. Hutchins, President; G. R. Eckart, Secretary; R. W. Skinner, Treasurer.

**Directors.**—W. T. Ellis, Jr., Marysville; J. H. Kimball, Yuba City; D. E. Knight, Marysville; C. A. Glidden, Marysville; R. W. Skinner, Marysville; J. P. Onstott, Yuba City; R. C. Kells, Yuba City; G. W. Hutchins, Marysville.

MARYSVILLE, September 5, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirteenth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
Cash balance.....		\$1,878 76
From subscriptions.....	\$837 50	
From gate receipts at Park.....	624 00	
From grand stand receipts.....	71 25	
From sale of wagon tickets.....	55 00	
From sale of tickets at Pavilion.....	430 25	
From sale of privileges at Pavilion.....	45 00	
From sale of privileges at Park.....	231 45	
From entrance fees to races.....	1,630 00	
From delinquent entrance fees collected.....	245 67	
From dividend from savings bank.....	41 91	
From sale of muslin and garden hose.....	8 25	
From donated premiums.....	6 00	
From fine from F. Enos.....	5 00	
Due from State appropriation (not yet received).....	2,549 00	
		6,780 28
		\$8,659 04

EXPENDITURES.		
Paid dues to National Trotting Association.....	\$50 00	
Paid premiums.....	1,924 00	
Paid for supplies at Pavilion.....	63 43	
Paid rent of Pavilion.....	200 00	
Paid for sprinkling at Pavilion.....	8 00	
Paid for labor at Pavilion.....	168 50	
Paid for hauling, account Pavilion.....	1 75	
Paid for music at Pavilion.....	130 00	
Paid for lights at Pavilion.....	17 75	
Paid for purses for races.....	4,655 00	
Paid for hay and straw for Park.....	165 82	
Paid for labor at Park.....	138 50	
Paid for sprinkling track and road.....	150 00	
Paid for hauling, account Park.....	18 75	

Paid for supplies at Park.....	\$5 00	
Paid for meals for employes.....	4 00	
Paid for premiums, ladies' riding.....	62 50	
Paid for penalty and interest collected and paid to National Trotting Association.....	28 97	
Paid for incidental expenses.....	41 11	
Paid for telephone switches.....	1 45	
Paid for advertising and printing.....	401 15	
Paid for salary of Secretary.....	300 00	
Paid for bill posting.....	11 65	
Balance .....		\$8,547 33
		111 71
		<hr/> \$8,659 04

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 13.

(Sutter and Yuba Counties.)

The resources of Agricultural District No. 13, which is composed of the counties of Sutter and Yuba, are varied and many. The district is bounded on the north by Colusa and Butte Counties; on the east by Sierra, Nevada, and Placer; on the south by Sacramento and Yolo, and on the west by Yolo and Colusa. Its population at the last census was 15,132, and it embraces in area about 1,227 square miles, the greater part of which is the most fertile agricultural land to be found in the State, producing every known variety of cereals, vegetables, and fruits, without irrigation, and without the record of a failure. Within the last few years hundreds of acres have been planted to fruit trees and vines, and this section is now famous for its extensive orchards and the fine quality of its fruits, both deciduous and citrus; the latter matures several weeks earlier than in the southern portion of the State, thus giving the producer the advanced prices of an early market.

The olive is extensively cultivated, there being over 30,000 olive trees in Yuba County alone, and during the past year the olive oil industry has been inaugurated in the district, and it will undoubtedly soon become a leading resource.

The resources of timber and minerals in the district are very extensive, and the manufacturing, stock-raising, and dairying interests are large.

Railroad transportation facilities are ample, while the Feather River, flowing through the center of the district, and the Sacramento River, bounding it on the west, both navigable streams, afford and guarantee to producers favorable rates of transportation to tide-water.

## SUTTER COUNTY,

In area, 610 square miles, or 391,000 acres of land, was organized in 1850, and it is situated wholly within the famous Sacramento Valley (it being the only county in the State which lies wholly within either of the great valleys). It embraces one of the finest agricultural, horticultural, and stock-raising regions of the world. It is the pioneer horticultural county of the Sacramento Valley; the first attempts in this line were made by General Sutter, at Hock Farm, in 1842, when he planted grapes, pomegranates, and a large grove of fig trees.

The productions of this county will cover almost the entire line of horticultural products of the State.

The county seat is Yuba City, located on the Feather River. It is a thriving town, lighted by gas and electricity, with ample water works; has a bank, flouring mill, fruit cannery, good schools, and offers inducements to the home-seeker.

#### YUBA COUNTY

Has an area of 617 square miles, or 395,000 acres of land. The county occupies a position in the heart of the Sacramento Valley. That part embraced in the angles formed by the junction of the Yuba and Bear with the Feather River, is level and well supplied with small streams. The foothill region, which reaches from the valley eastward, is at first rolling, but becomes hilly, brushy, and rocky as the Sierra Nevada Mountains are approached. The northeastern portion is rugged and broken. The area of land is divided about as follows: Valley land, 105,000 acres; foothill land, 136,000 acres, and mountains, 154,000 acres.

In the valley the wet and dry seasons are distinctly marked, fog seldom appearing. The thermometer during summer ranges from about 76° to 90°, and in some instances reaches as high as 100° or over, but the heat is so dry that it causes but little inconvenience or exhaustion, even to those who labor in the open air.

The valley lands are deep and rich, and of an alluvial character; the valley and foothill lands both being well adapted for agricultural and horticultural industries. Among the most important irrigation enterprises in the county has been the organization of the Brown's Valley Irrigation District, which comprises about 44,000 acres of the choicest foothill lands of California, consisting of sunny slopes and fertile valleys, upon which grow, with tropical luxuriance, every variety of citrus and deciduous fruits, berries, alfalfa, grasses, and vegetables.

*Marysville*, the county seat of Yuba, is an incorporated city of 4,500 inhabitants. It is the greatest trade-center of California north of Sacramento, and enjoys to an enviable degree immense resources derived from a large area of country which is unsurpassed in all the elements of health, wealth, and prosperity. Its spacious streets are traversed by street cars and are lighted with gas and electricity. The city has three banks, a number of hotels, carriage and wagon works, machine shop, foundry and harvester works, flouring mill, fruit canning and packing establishment, brewery, winery, and other interests of importance. The sanitary conditions are of the very best, as are shown by the official reports of the State Board of Health, and the schools are unsurpassed.

The Marysville Woolen Mill is noted throughout the entire Pacific Coast, and Eastern States, for the superior quality of its goods. Since the mill started it has purchased and used in the manufacture of goods 13,429,922 pounds of wool (most of which was grown in the immediate vicinity), at an average price of 16½ cents per pound, amounting to \$2,214,827 38. This amount has been paid to the wool men in cash, upon delivery of the wool, enabling them to pay bills promptly, and in many cases to keep a healthy balance in bank. In the same time there has been paid for labor \$852,907 78. There has been received from the sale of goods \$3,995,782 72. The success attained has come from making the best quality of goods, doing a cash business, and selling for a fair profit.

The Marysville Cannery was established in 1888, by Mr. R. W. Skin-



ner, a man possessed of skill and experience in the management of the business. The high standard adopted by Mr. Skinner in the selection and preparation of his fruit has won for the Marysville Cannery the highest praise throughout the United States. Its market is the world, shipments being made to the distant points of London and South America. One million cans of peaches, and a quarter of a million cans of other fruit is the pack of this season up to date. Nearly one hundred cars of canned goods have been sold and shipped away. Over \$25,000 has paid for this season's labor, and the work promises to continue into the late fall, as the hands will be put on tomatoes and other vegetables as soon as the fruit crop is finished. The weekly payroll is over \$2,000. Thus is this industry shown to be a most important one, for besides affording the horticulturist a reliable market for his fruit at remunerative prices, employment is furnished to a large number of people at fair wages.

In conclusion, this district presents a most inviting field for the home-seeker, the mild and equable climate and fertile soil making it one of the most desirable places for settlement in California.

G. R. ECKART,  
Secretary.

G. W. HUTCHINS,  
President.

# REPORT

FROM THE

## FOURTEENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of Part of the County of Santa Cruz,

FOR THE YEAR 1894.

**Officers.**—R. C. Kirby, President; Oscar L. Gordon, Secretary; City Bank, Treasurer.  
**Directors.**—R. C. Kirby, Santa Cruz; Martin Kinsley, Santa Cruz; L. K. Baldwin, Santa Cruz; A. G. Rose, Santa Cruz; A. Noble, Soquel; D. M. Locke, Santa Cruz; G. P. Laird, Santa Cruz; W. H. Aiken, Wrights.

SANTA CRUZ, November 10, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Fourteenth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
State award .....	\$250 00	
Sales of tickets and privileges .....	293 90	
Balance of 1893 .....	290 35	
		<u>\$2,584 25</u>
DISBURSEMENTS.		
Music .....	\$55 00	
Expressage .....	3 75	
Stationery .....	12 75	
Rent .....	100 00	
Lumber .....	5 01	
Labor and other expenses .....	531 32	
Feed for stock .....	36 40	
Light .....	34 50	
Hardware .....	2 90	
Printing and advertising .....	134 75	
Premiums paid .....	1,394 75	
Balance .....	273 12	
		<u>\$2,584 25</u>

### DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 14.

(Part of Santa Cruz County.)

*Agriculture.*—The season has been favorable for agricultural productions, and they have been equal to the average, and in some localities have exceeded the productions of last year by nearly 100 per cent. The acreage planted does not vary materially from last year.

*Horticulture.*—There has been quite an increase in acreage planted, but the yield is not so good nor so large as last year by 25 per cent, though a good crop has been harvested.

*Viticulture.*—The grape crop has been very light, especially table grapes. The crop of wine grapes has been larger in comparison to the acreage than that of table grapes.

*Climate.*—The following table shows the climatic conditions of this district during the fiscal year 1894-94. It varies but little from the average of previous years:

Month.	Prevailing Wind.	Clear Days.	Cloudy Days.	Partly Cloudy Days.	Rainfall, in Inches.	Average Temperature.	Average Temperature of the Seasons.
June .....	S. & N.W.	29	0	1	Trace	60.4	Summer, 62.
July .....	S. & S.W.	30	0	1	.00	62.6	
August .....	S. & S.W.	28	3	0	.00	63	
September .....	S.W.	23	4	3	.25	60.8	Autumn, 58.7.
October .....	S.W.	19	6	6	.75	58.4	
November .....	S.W.	19	4	7	4.40	57	
December .....	S.W.	17	10	4	3.50	54.2	Winter, 50.8.
January .....	S.W.	20	3	8	7.02	48.8	
February .....	S.W.	16	12	0	8.60	49.4	
March .....	S.W.	17	6	8	1.64	52.4	Spring, 56.6.
April .....	S.W.	24	3	3	.66	58.2	
May .....	S.W.	13	16	2	2.36	49.2	
Totals .....		255	67	43	29.18	57.03	

Can any place in the Golden State show a better climatic record? Two hundred and fifty-five days of sunshine, and not a cloud to obscure the azure blue of heaven. There was sufficient rainfall to secure bountiful crops. The only unfavorable climatic condition was the cold spring, which retarded vegetable growth and decreased to some extent the horticultural and viticultural productions. The variation in climate from summer to winter was but 11.2°.

*Public Schools.*—Within this district there are forty-two public school buildings. The value of school buildings, lots, and furniture is \$124,450, with a school library of 8,932 volumes, valued at \$8,045; value of school apparatus, \$5,845; making a total value of school property, \$138,330. Children between the ages of five and seventeen years, 3,333; enrolled, 2,512. Teachers employed, 80. School of the Holy Cross has 226 students enrolled, and employs 8 teachers.

*Santa Cruz City Schools.*—The Santa Cruz city schools are divided into Kindergarten, Primary, Grammar, and High School grades, and pupils are thoroughly and systematically classified. The studies of the High School and last year of the Grammar grade are segregated into groups of allied subjects, with a teacher especially fitted for that work in charge of each department. The entire school department is under the supervision of D. C. Clark, who is ably assisted in the management and work of the schools by Vice-Principal Miss Lillian A. Howard and an efficient corps of thirty-eight teachers. The teachers in the schools are mostly young in years, but old in educational experience. Educated, as they have been, in high schools, colleges, normal schools, and universities of the present day, they bring into the work the energy of young manhood and womanhood, together with the most advanced and most approved methods of teaching. The teachers keep constantly in view



the fact that they are fitting pupils for "the best living," therefore it is necessary to develop in them physical, moral, and intellectual powers. Hygiene, with special attention to effects of narcotics and stimulants, is taught. Industrial and mechanical drawing receive due attention. The Constitution and the principles of government are made a feature of instruction. In bookkeeping, particular attention is given to practical and business forms. So with all subjects taught, mere intellectual knowledge is not the sole aim, but such knowledge as will best fit the pupils for useful, happy lives and American citizenship. The high standard of excellence of the schools is shown by the fact that graduates of the High School are received into both the University of California and Leland Stanford Junior University upon the recommendation of the Principal, and are also received at the State Normal Schools, from which they can graduate from the four years' course in two years from date of entrance. That these privileges are appreciated is made manifest from the attendance of thirty-one of our young people in the above institutions at the present time. The rapid growth of the schools is shown by the following statistics of enrollment and attendance:

	1884.	1889.	1894.
Number of days attendance .....	133,840	174,671	227,304
Number of days absence .....	7,952	6,910	8,866
Number of tardinesses .....	1,342	849	1,591
Number of boys enrolled .....	510	647	791
Number of girls enrolled .....	491	668	807
Total enrolled .....	1,001	1,315	1,598
Average number belonging .....	746	965	1,243
Average daily attendance .....	704	929	1,196
Percentage of attendance .....	94 $\frac{2}{3}$	96 $\frac{1}{2}$	96 $\frac{1}{4}$

The High School department shows a more wonderful growth. In 1884 there were but twenty-two pupils enrolled in the High School, and none of them had reached the Senior year. In 1894, one hundred and forty-three pupils were enrolled, thirty-one of whom received diplomas of graduation, increasing the number of graduates during the ten years to one hundred and thirty-seven.

It would be unjust to close this article upon the schools without paying tribute to the efficient Board of Trustees, who collectively and individually have labored zealously for the upbuilding of educational interests, and who by their fostering care and attention have largely contributed to make the schools what they are to-day. By the good will and strong feeling of interest in the schools, the people voted bonds to the amount of \$45,000 for the purpose of increasing the school-room accommodations of the district. Under the judicious management of the Trustees, Messrs. Dr. P. B. Fagen, O. J. Lincoln, and Bart Burke, the new buildings are all under way and some are approaching completion. At the beginning of the next school year, with the two-room addition at the Grant school, four large new rooms at Branciforte, the new and commodious six-room Laurel school, the Kindergarten comfortably situated in its own building, together with the elegant High School building completed, Santa Cruz will have school facilities equaled by few and excelled by no city of corresponding size.

*Chesnutwood's Business College.*—This college was organized February 14, 1884, by Professor Z. A. Chesnutwood, a genial, christian gentleman.

This college is in some respects dissimilar to other business colleges. Professor Chesnutwood is not a worshiper of the golden harvest of coin that yearly drops into his till. A larger and broader spirit prompts him in his field of education—that of preparing the youth of our land for every and all kinds of business which may present itself, both alike to male and female. The Professor is consulted by business men as attorneys are consulted in their profession, and always does he supply their wants cheerfully, and without money and without price. The Professor's work in Santa Cruz for the ten years past is a far better eulogy than I can pen for him. During the time Professor Chesnutwood has been an educator among us, ten years, he has had enrolled in his college 3,370 pupils, nearly all of whom have graduated and received diplomas. Professor Chesnutwood's college has no superior in its line of education.

*Public Library.*—The Santa Cruz Library contains 9,000 bound volumes of choice literature, and 11,000 unbound volumes.

*Assessment Roll, Santa Cruz City, 1894.*—Real estate, \$2,463,509; improvements, \$992,255; personal property, \$377,108; money and solvent debts, \$12,870; value of mortgages, \$432,666; total city tax for 1894, \$46,149 77.

*New Industries.*—The foothills of this district and the entire mountain region are peculiarly adapted to horticultural and viticultural productions. Each year new orchards are being planted, and the productions rapidly increasing. Many of these producers are without sufficient capital to market their productions, and have been depending on middlemen or speculators for sales. If the middleman or speculators did not come to purchase, and if he or they did come, and could not buy for half the cost of producing, the fruits wasted and rotted on the ground. This year the fruit growers have formed a coöperative union, called the Santa Cruz County Fruit Growers' Union. This gives every producer a chance to prepare his fruit for market, and to dispose of it without any charges except the actual cost of handling. This union has selected a spot in the Santa Clara Valley, near Gilroy, on which to erect a drier; selected because of its caloric atmospheric conditions and its peculiarly drying properties, it being three miles from any liquidating institutions, at the new town of Rucker. A plant has been constructed at an expense of nearly \$12,000, and nearly \$20,000 worth of fruit has been dried and prepared for market, exclusive of the large quantities dried at home.

*Increase of Exhibits.*—With the single exception of the live stock and viticultural departments, the exhibits were better and larger than at any previous fair held in this district. The agricultural and horticultural exhibits were exceptionally fine. There were entered for premiums 2,357 articles, and there were 1,051 premiums awarded. Besides the entries for premiums there were nearly 2,000 for display. There is a gain each year in the number of entries for competition, and much benefit has been derived from these yearly exhibits. It has brought the producers together to compare productions, and to select the best varieties as standards.

OSCAR L. GORDON,  
Secretary.

**REPORT**  
FROM THE  
**FIFTEENTH DISTRICT AGRICULTURAL ASSOCIATION,**  
Composed of the County of Kern,  
FOR THE YEAR 1894.

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**Officers.**—H. A. Jastro, President; S. W. Wible, Vice-President; Charles E. Sherman, Secretary; H. A. Blodget, Treasurer.

**Directors.**—H. A. Jastro, Bakersfield; H. A. Blodget, Bakersfield; S. W. Fergusson, Bakersfield; W. S. Tevis, Bakersfield; S. W. Wible, Bakersfield; J. R. Simmons, Bakersfield; George Daggett, Bakersfield; E. M. Roberts, Bakersfield.

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BAKERSFIELD, November 17, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Fifteenth District Agricultural Association submit this report for the year 1894. No fair was held this year, for two reasons: First, the depressing influence of the hard financial times made the people of this district feel unable to assume the expenses that would accrue; and second, the State appropriation was exhausted.

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DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 15.

(Kern County.)

*Conditions during 1894.*—There was less snowfall in the Sierra Nevada during the fall and winter of 1893-94 than has been known for years, and consequently during the summer the volume of water in Kern River was less than at any time within the memory of the oldest inhabitant. As a result, thousands of acres which for a second crop would have been planted to Egyptian corn, were left uncultivated.

The light spring rains, a misfortune which prevailed all over the southern part of the State, almost totally destroyed the grain crops on the unirrigated mesa lands, and so largely reduced the crops in the high mountain valleys and rolling hills in the Tehachapi and Liebra country that less than half the usual returns have been had.

As another result of the prevalent dry season, very little of the valley acreage which is seeded to alfalfa was cut more than twice. Horses and cattle in large numbers were driven into this valley from adjoining counties, making such a demand for feed that pasturage was found to



be more profitable than making hay. Including range cattle purchased in New Mexico and Arizona and fattened here for market, not less than 30,000 head of outside cattle have been pastured here this season, and at least 2,000 horses.

*Hay.*—This is rapidly becoming a very large interest. Estimates are: Alfalfa on hand January 1, 1894, 8,000 tons; harvested in 1894, 17,000 tons; used at home, 6,000 tons; shipped, 8,500 tons. Grain hay on hand January 1, 1894, 2,000 tons; harvested, 5,000 tons; used, 500 tons; shipped, 4,000 tons; on hand, 2,500 tons.

*Cereals.*—Wheat: Irrigated valley land, 17,000 acres, yielding 115,000 bushels; unirrigated mesas, 21,000 acres, no crop either of grain or hay; mountain valleys, 40,000 acres, yielding 100,000 bushels of grain and 5,000 tons of hay. Barley: Irrigated valley land, 3,000 acres, yielding 25,000 bushels; mountain valleys, 10,000 acres, yielding 5,000 bushels. Increased acreage of grain will be sown this season.

*Egyptian Corn.*—Irrigated lands, 10,000 acres, which will average 25 bushels to the acre, but has mostly been fed to stock in the field. Probably twice the amount will be seeded next season as a second crop following grain.

*Alfalfa.*—Total area planted, 76,000 acres, and preparations are now under way for 12,000 acres more.

*Fruits.*—Four hundred acres set out this season.

*Ramie* is attracting marked interest, and plants enough for 10,000 acres are already growing in the nurseries, to be largely set out if decoration proves successful.

*Hemp and Upland Rice*, by the practical experiments of this season, are both recommended for profitable culture on a large scale.

*Gold Mining* is largely on the increase. The dry placers on the Mojave Desert give profitable employment to about two hundred men. Water has been brought by pumps into Bonanza Gulch, in Red Rock Mining District, and the first day's run yielded \$4,000 in gold. There is an immense area of rich ground, but the water supply is very limited. This field will, however, be a good "poor man's country" for many years to come. There are fifteen quartz mines now being profitably worked, with every indication that the number will be doubled or trebled within a year.

CHARLES E. SHERMAN,  
Secretary Fifteenth Agricultural District.

# REPORT

FROM THE

## SIXTEENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of San Luis Obispo,

FOR THE YEAR 1894.

**Officers.**—E. W. Steele, President; M. Egan, Secretary; R. E. Jack, Treasurer.

**Directors.**—J. H. Hollister, San Luis Obispo; E. W. Steele, Edna; P. W. Murphy, Santa Margarita; R. M. Shackelford, Paso Robles; J. L. Andrews, San Luis Obispo; W. B. Prichard, San Luis Obispo; A. McAlister, San Luis Obispo; Arza Porter, Huasna.

SAN LUIS OBISPO, November 27, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Sixteenth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.	
From sales of privileges.....	\$365 00
From entries to races.....	386 50
From receipts at Pavilion.....	229 95
From receipts at Park.....	458 75
From State warrant.....	2,250 00
Balance.....	427 93
	<u>\$4,118 13</u>
EXPENDITURES.	
For purses paid.....	\$1,045 00
For premiums paid.....	834 50
For medals, diplomas, etc.....	155 00
For music.....	150 00
For insurance.....	168 75
For Secretary's salary.....	250 00
For printing and advertising.....	286 50
For posters and lithographing.....	81 00
For labor and employment (Pavilion).....	110 50
For labor and employment (Park).....	180 00
For postage, expressage, and freight.....	66 30
For lumber and material used.....	166 58
For rent of Park.....	600 00
For electric and gaslight.....	24 00
	<u>\$4,118 13</u>

### DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 16.

(San Luis Obispo County.)

Nothing, in the opinion of the officers of the Sixteenth District Agricultural Association, has so greatly advanced the interests of the territory embraced within its jurisdiction as the existence of their own

organization. It is purely an agricultural section, and cannot expect any very great manufacturing development. It is the theater of the heaviest dairy operations in the whole State, and promises to be the greatest fruit region in California. Its past record shows the most phenomenal production of vegetables and of certain fruits in the whole United States, and probably of the whole earth. For the sufficient exploiting of such remarkable developments nothing would be adequate, except the operation of the annual fairs, which, thanks to the bounty of the State, we are able to give.

The enterprise of the Southern Pacific Company, encouraged and induced by the public spirit of the local population, has resulted in the construction of a railroad through this county, at enormous expense, say at a rate of \$50,000 per mile. The road has overcome physical difficulties of the most extraordinary nature, and throws open to settlement and occupation millions of acres of land of singular richness, and upon which in the near future there will be a population of hundreds of thousands of people, the results of whose industry and intelligent agriculture will amount to millions of dollars annually. To this most beneficent result it is certain that no means has so certainly and directly induced as the system of annual agricultural fairs established by the State. The record of agricultural achievement, which in no other way could have been displayed, has been published far and wide, and the peculiar advantages offered by the soil and climate of San Luis Obispo County have become matters of common knowledge, thanks to the comparisons instituted at such agricultural fairs. While it is demonstrated that no farmer will wander from the path of safety in undertaking the culture of any product known to the temperate zones; while the wheat-raiser and the dairyman may be assured of more than average returns, yet the great prizes of nature will be won by the agriculturist who devotes his labor and capital to the raising of the apple, the pear, the prune, the apricot, the lemon, the olive, the walnut, and kindred products. It is for the farmer to experiment, it is for the Agricultural Association to demonstrate; and we claim that in so doing we have returned to the people, in ample measure, all the assistance with which we have been favored.

We claim that we produce more butter and cheese than any other county in the State. In 1893, we shipped from Port Harford, our principal port of shipment, 1,510 tons of butter and 115 tons of cheese; from Cayucos, our next largest shipping point, we sent 501 tons of butter and 32 tons of cheese. The system of creameries and coöperative dairying is just being inaugurated in our county, as the dairying has mostly been done on the grasses alone. With the improvement in our cows, scientific dairying, and feeding, we may expect an immense increase in quantity and quality of our products—an increase of 100 per cent, if no more cows are milked.

To specify in detail the products possible of growth, and common to this great extent of territory, would be as endless as the endeavor to count the stars in the milky-way. All that I can do is to mention a few of the most prominent, amongst which is the apple. Nowhere in the State does this fruit grow more profusely or more magnificently. Such specimens of Yellow Newtown Pippin, Rhode Island Greening, King of Tompkins County, Spitzenberg, Bellflower, White Winter Pear-



main, Ben Davis, and the like, as are yearly seen on the tables at our District Fair, have no superiors of their kind.

Prunes grow to perfection in all this vast region.

Almonds and walnuts promise well, while apricots are absolutely perfect in all the essentials of size, color, and flavor.

Grapes mature finely where well sheltered, and grow in clusters of prodigious size.

Of oranges and lemons, no great number of trees have been planted; but in most instances where in bearing, very satisfactory results have been obtained. Especially is this the case with J. P. Andrews, of San Luis, who has at our District Fair annually exhibited specimens which have compared favorably with the best grown in the State.

As to vegetable products, Arroyo Grande bottoms are generally conceded to have no counterpart. Thirty tons of onions and 40 tons of carrots per acre are common. Cabbage weighing 100 pounds, corn 20 feet high, and squashes, many of them weighing over 200 pounds, are so common as to create no special comment in this section.

As to the industry of grain-growing on the west side, it has, for the last twenty years, been a prominent feature, barley and oats being the chief products in this line. Wheat generally yields fairly well, but the grain is usually dark, consequent upon the coast influences.

So, upon the whole, it may be said, without fear of successful contradiction, that between San Simeon on the north and Nipomo on the south—a distance of some 60 miles, and reaching from the ocean shore to the steeps of the San Lucas range, varying in width from 5 to 20 miles—may be found nearly every conceivable class of soil and products, and almost every phase of climate, from that of zero in winter to that of perpetual spring.

#### EAST OF THE SAN LUCAS MOUNTAINS.

On the east of the San Lucas range about two thirds of the arable lands of the county are located. The general feature of this great section is undulating; wooded on the ridges and mesas by blue and white oak, while the valleys of the Huer Huero, Estrella, Cholame, San Juan, and Salinas show interminglings of white oak, cottonwood, and willow, the first named generally predominating. The soil is uniformly good, even to the tops of the highest hills.

Ten years ago there was little else but range cattle and broncos to be seen, occasionally intermingled with vast swarms of grade sheep. A few great ranchers ran the country from a distance, with the local habitation of some herder, housed at night in a 7 x 9 shanty on the bank of some stream or near a vale or hillside spring. All this has now changed. The herds are seldom seen, and when found they are invariably inclosed with good fences. Grain-raising—chiefly wheat—has largely predominated over every other product for the last ten years; and, owing to the adaptability of soil and climate for this line of products, its preponderance is likely to continue for many years to come.

M. EGAN,  
Secretary.

## REPORT

FROM THE

## SEVENTEENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Nevada,

FOR THE YEAR 1894.

**Officers.**—M. L. Marsh, President; I. J. Rolfe, Secretary; E. M. Preston, Treasurer.  
**Directors.**—M. L. Marsh, Nevada City; E. J. Rector, Nevada City; George F. Jacobs, Nevada City; John F. Kidder, Grass Valley; George Fletcher, Grass Valley; Samuel Granger, Grass Valley; C. H. Mitchell, Grass Valley; E. Jamieson, M.D., Grass Valley.

NEVADA CITY, January 14, 1895.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Seventeenth District Agricultural Association submit this, their report of said association, for the year ending this date:

1894.		RECEIPTS.	
Jan. 1—	To balance on hand last report .....	\$226 77	
Sept. 1—	To admissions to Pavilion .....	486 75	
	To privileges at Pavilion .....	15 00	
	To exhibitors' badges .....	38 00	
	To State appropriation .....	2,250 00	
			<u>\$3,016 52</u>
Sept. 1—	To balance on hand .....		\$585 02
Oct. 1—	To donation, I. J. Rolfe .....		107 90
	To donation, M. L. Marsh .....		20 00
	To entrance fee on Pasha .....		75 00
1895.			<u>\$787 92</u>
Jan. 1—	To amount on hand .....		
		EXPENDITURES.	
	By rent of Pavilion .....	\$50 00	
	By preparing hall for exhibitors .....	69 10	
	By gas at Pavilion .....	24 00	
	By premiums at Pavilion .....	723 50	
	By music at Pavilion .....	100 00	
	By Superintendent of Pavilion .....	56 00	
	By payroll at Pavilion .....	169 75	
	By payroll at stock ground, and expense .....	88 90	
	By printing and advertising .....	275 25	
	By hauling .....	1 00	
	By premiums at stock ground .....	223 00	
	By maintenance at stock ground .....	200 00	
	By subscription to Breeder and Sportsman .....	5 00	
	By Secretary's salary .....	250 00	
	By Directors' expenses .....	160 00	
	By general expenses .....	36 00	
	By balance .....	585 02	
			<u>\$3,016 52</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 17.

(Nevada County.)

Assessed valuation of property in 1894, \$5,852,469; rate of assessment inside of municipalities, \$1 95; rate of assessment outside of municipalities, \$2 35; no indebtedness; area of county, 650,240 acres; population about 20,000; number of schools in the county, 83.

*Principal Towns.*—Nevada City, county seat; Grass Valley, Truckee, North San Juan, and North Bloomfield.

*The leading industry* of the county is gold mining, and in the production of that metal Nevada ranks first among the mining counties of the State. Extensive deposits of copper ore are found in various parts of the county, but with the exception of the San Francisco Copper Mine, located at Spenceville, in the western part of the county, none have been worked with profit. There are no silver mines known to exist in the county, but a small percentage of silver is contained in all the gold ores; this is saved by roasting and leaching in the process of extracting the gold, and, in some instances, adds materially to the profits of the mine.

The cessation of hydraulic mining, and the depreciation in the value of silver, have stimulated the business of gold mining, which in this county is confined principally to quartz, although we have a number of valuable drift mines, notably the Derbec, at North Bloomfield; Harmony, West Harmony, Cold Springs, and Fountain Head, at Nevada City. Hundreds of prospectors are now searching for new gold-bearing quartz ledges, and capitalists are purchasing old properties that have been profitably worked in the past, and in most instances their investments have proved satisfactory. One hundred and fifteen stamps have been added to those that were in operation a year ago, as follows: At Grass Valley: Osborn Hill, 20; Gold Point, 10; Electric, 10; Pennsylvania, 5; Orleans, 5. At Nevada City: Spanish, 10; Gold Flat, 10. At Eureka Township: English Mountain, 20; Rainbow, 10; Folley & Dillon, 5. With one or two exceptions, these mills have been erected on mines that have been idle for years in consequence of the expense in operating them, but recent improvements in the methods of working gold-bearing ores have been adopted, thereby greatly reducing the cost. As a consequence, therefore, mines are now worked at a profit which a few years ago could not be operated under the conditions then existing. This activity in gold mining has materially increased the population of the county as well as the assessed valuation of property and the production of the precious metals.

*Agriculture and Horticulture*, which are confined principally to the western portion of the county bordering upon the Sacramento Valley, are languishing somewhat for want of proper means of transportation; but when our mountain towns—Nevada City and Grass Valley—shall be connected with the valley system by a broad-gauge railroad, the quantity and quality of all varieties of our fruits, nuts, and berries cannot be surpassed by any county in the State. Our trees are grown and growing, but for want of transportation we are unable to compete with our more fortunate neighbors.

*Water Supply.*—No county in the State is better, if as well, supplied with water for mining, power, or irrigation, and this supply is being constantly increased by the construction of dams in the valleys and



ravines surrounded by everlasting snow; and ditches and flumes have been constructed to convey this water from the summit of the Sierra to the Sacramento Valley, with branches to distribute it wherever required for the use of the miner, mill-owner, or rancher along the line.

I. J. ROLFE,  
Secretary.

## REPORT

FROM THE

## EIGHTEENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Inyo, Alpine, and Mono,

FOR THE YEAR 1894.

**Officers.**—T. F. A. Connelly, President; Ben H. Yandell, Secretary; Henry Rhine, Treasurer.

**Directors.**—T. F. A. Connelly, Bishop; Robert Love, Bishop; N. T. Piper, Oasis; Bertrand Rhine, Independence; Elijah Robinson, Independence; J. E. Shepherd Independence; J. L. C. Sherwin, Round Valley; Finley McIver, Citrus.

INDEPENDENCE, October 20, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Eighteenth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
Balance on hand from 1893.....	\$44 98	
State appropriation (not yet received).....	3,000 00	
Sale of tickets.....	180 50	
Sale of privileges.....	181 00	
Gate and door receipts.....	162 75	
Subscriptions and entrance fees for races.....	900 00	
		<u>\$4,469 23</u>
EXPENDITURES.		
For premiums.....	\$1,995 00	
For rent of Pavilion.....	250 00	
For rent of Park.....	300 00	
For rent of piano.....	25 00	
For advertising and other printing.....	165 75	
For labor and clerks.....	226 50	
For Directors' expense.....	350 00	
For salary of Secretary.....	150 00	
For merchandise and lumber.....	119 36	
For badges.....	20 00	
For postage and stationery.....	7 50	
For race purses.....	1,000 00	
		<u>\$4,609 11</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 18.

(Inyo, Alpine, and Mono Counties.)

In our report of agricultural resources for the year of 1894, we are not fortunate in having many new industries to chronicle; still we note advancement all along the line, and although geographically isolated from the rest of the State, the steady development of our wonderful

resources is surely bringing our district into the first rank; and through the unprecedented "hard times" and stringency of the past year, the farmers and people generally of the Eighteenth District have borne up better, and beyond a doubt are at present in better circumstances, than the agriculturists of any other section of California.

Among entirely new industries, however, I may mention an irrigating system which will tap Owens River in Long Valley, Mono County, and extending southeast covers many hundreds of acres of beautiful land in southern Mono and northern Inyo. It is also proposed by the builders of this system to flume lumber and wood to the valley from an extensive timber belt that skirts Long Valley, and through which this system will be built.

The cultivation of hops is receiving some attention. That they will yield a handsome profit is no longer a surmise. J. S. McGee, of Pleasant Valley, has this season put out twelve acres, and he and others are preparing to plant more extensively this coming season.

Another industry that deserves attention, and which is certainly entitled to even financial encouragement from our Department of Agriculture, is the production of beet sugar. In this district are thousands of acres of land specially adapted to the sugar beet, and beets raised here actually contain a larger percentage of sugar than the beets grown in any of the sugar-producing districts, as has been proven by tests made at Reno and other points.

New borax fields have been opened in southern Inyo during the past year, notably those of Messrs. Woodin, Murphy, and Davidson, adding materially to the supply of commercial borax.

Tin has been discovered in paying quantities, and it is predicted that within six months two hundred men will be at work in the tin mines of this county.

I append a splendid paper, descriptive of Inyo County, published by the "Inyo Register":

#### INYO COUNTY.

Inyo County is bounded on the north by Mono, south by San Bernardino, west by Fresno and Tulare Counties, east by the State of Nevada. It is the third largest county in California; area, 10,156 square miles. Patented lands, about 160,000 acres, and fully as much more quite as desirable, mostly located, but yet to be reclaimed and patented. Population in 1890, 3,544. Rate of taxation in 1893, \$1 80. Miles of railroad, 74.25. County debt, \$70,000.

The county seat is Independence. The largest town is Bishop, situated centrally in the largest and best watered body of agricultural lands in California east of the Sierra.

Prices of land range from \$1 25 for Government, to \$10 and \$20 for good land. The very finest and best situated and improved land can be purchased at from \$40 to \$75.

A line drawn from the northeastern corner of the county, as shown upon the map, to the southwestern would fairly serve to indicate the eastern boundary of settled Inyo. The larger part east of this line is a section apparently rich in mineral deposits, but very mountainous and wholly desert. The western, and smaller, portion of the county is the territory generally meant in referring to Inyo's agricultural resources



and fertility. Within this limit lie Owens Valley and most of the mining camps.

Of natural wonders, scenery, etc., little can be said in a brief article. The surface is broken by numerous mountain chains. In the eastern division is found Death Valley, which lies 200 to 400 feet below the level of the sea, and which has served as a subject for many idle pens to clothe in horrors it does not possess, though it is arid and desolate enough. Overlooking Owens Valley from the west towers snow-clad Mount Whitney, whose 15,000-foot stature is so nearly rivaled by many surrounding peaks that it is by no means a conspicuous object. The Sierra Nevada range, containing these giants, along here attains its greatest altitude. Broken into innumerable forms of cliff and cañon, peak and abyss, it presents some of the grandest, most sublime scenery of the continent.

*Mineral Wealth.*—Inyo is better known for mineral than for agricultural wealth, though both are so extensive that their enumeration might well challenge the belief of the uninformed. This county is claimed to lead the State in variety and extent of mineral deposits. Salt beds containing millions of tons; whole townships of borax marshes; quantities of pure sulphur; a mountain of the finest marble, which is fast becoming noted; Owens Lake, 180 square miles of highly charged mineral waters, from which soda is taken by evaporation, and which can supply the world; and mountain ranges abounding in gold, silver, lead, copper, and other ores.

The Cerro Gordo mines turned out one third of California's silver up to 1874, when litigation closed the mines.

Owing to the expense of outside communication, and of working much of the ores, but little is done with any except those of high grade. The White Mountains, Inyo, Panamint, and other ranges contain hundreds of ledges of low-grade ore which cheaper or more systematic methods of working, and a reasonable increase in the price of silver, will some day develop into veritable bonanzas.

*Agriculture.*—Vast as are her mineral stores, the future greatness of Inyo will come from the development of her agricultural resources. Anything that the temperate zone will produce can be grown in Owens Valley. Grain and all the common varieties of farm and garden produce yield abundantly, and are of uniformly excellent quality. Fruits, including apples, pears, peaches, apricots, prunes, grapes, and small fruits and berries yield large and almost unfailing crops.

Bee-keeping is becoming an important industry. Widespread alfalfa fields, orchards, native flowers, etc., furnish an abundance of bee food. The honey exported in yearly increasing quantities is not surpassed anywhere, the orange region product not excepted. Its whiteness and flavor insure for it the best market prices.

Owens Valley is a natural stock country. Native grasses are rich and abundant, and stock feeding upon them keep in good condition most of the year. Alfalfa grows luxuriantly, and is of unsurpassed quality. These rich feeds and mild climate unite to make stock thrive in appearance and fact. Beef grown here is first-class, and horses have an endurance and a lung power which make them valuable for any service. They generally command the best prices in outside markets, in their grades and classes.

*Natural Features.*—Owens Valley is nearly 100 miles in total length, and is almost subdivided midway by a spur of the Sierra. Toward the southern end, also, the mountains close in, again spreading to form the basin of Owens Lake. The valley from foothill to foothill varies in width from 6 to 15 miles. The elevation varies from nearly 5,000 feet in Round Valley and 4,450 at Bishop, to 3,926 at Independence and 3,650 at Keeler on the shore of Owens Lake.

The valley is traversed from north to south by Owens River, carrying a cross-section varying from 150 to 300 feet, and flowing from 3 to 5 miles an hour. The next largest stream is Bishop Creek, with a swift current, and an ordinary cross-section measurement of 30 to 60 feet, but at times almost rivaling in volume the river into which it empties. There are numerous other streams of greater or less size, heading in deep lakes or directly fed by the eternal snows of the high Sierra. These creeks, all tributary to Owens River, flow across the valley a few miles apart all the way between where the river enters the valley at the north end, to Owens Lake at the south.

The irrigating systems of the valley draw their supplies from the river. Of these there are more than a score, with others of importance under way. Of the latter, the Owens River Canal will cover a large area of hillside and sagebrush land within a few miles of Bishop. This is second only in importance, among the projected ditches, to the Indian Wells Valley Canal, a mammoth enterprise, which, when completed, will be 80 miles long and cover a large body of land south of Owens Lake, and will bring into use a large section of country heretofore almost valueless. Another enterprise which may have an important bearing upon irrigation in the future, is the Hillside Water Company's storage scheme. There are others under way which also deserve attention.

The soil of the valley varies from loam on the river to sagebrush lands towards the foothills. The "fertile strip" is limited only by the mountain sides, for wherever water can be put, the soil will produce.

There is railroad communication to the northward only—the Carson and Colorado, with one terminus at Keeler, and the other at Mound House, Nevada, at which point it connects with the Virginia and Truckee, the latter with the Central Pacific at Reno. Other lines have been projected to run into the valley, but nothing is yet accomplished.

Owing to the high altitude and natural situation, the air is dry and healthful. The temperature is never extreme; the thermometer reaches well up in the nineties in the hottest part of the summer, and sometimes touches the hundred mark. But 100° here is far less discomforting than is 90° on the seacoast. This is proved by the fact that sunstroke, which elsewhere is frequent at a heat of 90° to 94°, is here unknown. The lowest winter temperature reported from the Weather Bureau station at Keeler is 12° above zero, though other points in the valley have recorded a temperature down to 6° above. Observations and reports from Keeler show that the sun shines here more days in the year than it does in any other section of California, 320 to 330 clear days being recorded.

*Educational.*—The public schools rank high in efficiency. Several costly buildings have been built in different districts in the past few years, and the qualifications required of Inyo educators insure competent teachers. Their work is ably supplemented by that of the Inyo Academy, an institution of higher learning established at Bishop, eight

years ago. Its graduates have invariably made splendid records on entering yet higher colleges.

Fraternal orders and social organizations are numerous and thriving. There are several church organizations in the valley, and two church buildings at Bishop, and one each at Independence and Lone Pine.

Industrial enterprises are few, as may be expected from the small population. The leading example of coöperative energy is the Inyo Creamery's \$7,000 plant at Bishop.

*In General.*—To deal justly with such marvelous resources in limited space is impossible. We have but hinted, so to speak, at the existence of facts deserving investigation. Nature responds bountifully to every draught upon her resources. Vegetation is green from February or March to November, and sometimes longer.

Owens Valley is a country for people of moderate means or of good energy. It is no place for a man to come unless he means business and is willing to help himself. The land and the water are here, and any one who wants them to make him a living can get them at reasonable rates, and be certain that a fertile soil will respond generously to his rightly directed labor.

With entire freedom from drought, insect pests, cyclones, blizzards, and allied inflictions; a fertile soil, good water supply, healthful and mild climate, sunshine nearly all the year, good schools, better social advantages than are usually found in towns the size of these, finest quality of animal, agricultural, and horticultural productions, inexhaustible mineral deposits—with all these there is every reason to believe that Owens Valley must ere many years take the rank its resources merit as one of the leading sections of the Golden State.

BEN H. YANDELL,  
Secretary.



## REPORT

FROM THE

## NINETEENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the south half of Santa Barbara County,

FOR THE YEAR 1894.

**Officers.**—Charles P. Low, President; Henry B. Brastow, Secretary; A. L. Lincoln, Treasurer.

**Directors.**—Charles P. Low, Santa Barbara; A. Hayman, Santa Barbara; R. Kinton Stevens, Santa Barbara; T. P. Izard, Santa Barbara; S. P. Stow, Goleta; J. C. Chamberlain, Goleta; G. C. Packard, Montecito; D. M. Dimmick, Carpenteria.

SANTA BARBARA, November 7, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Nineteenth District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Balance from account rendered in 1893.....	\$1,298 33
Received from advertisements in catalogue.....	152 50
Received from sale of privileges.....	738 00
Received from sale of tickets.....	1,611 50
Received from grand stand.....	211 10
Received from race entries.....	1,495 00
Received from suspensions in 1893.....	60 00
Received from Thos. Chrisman & Co.....	20 00
Received from sale of straw.....	13 68
To balance.....	1,918 23

\$7,518 34

## EXPENDITURES.

Booth & Packard, hardware, etc., Fair of 1893.....	\$4 60
J. W. Parks, premium for stallion and four colts, Fair of 1893.....	15 00
Cash premiums, Fair of 1894.....	1,223 00
National Trotting Association, dues for 1894.....	25 00
Race purses.....	3,690 00
F. S. Malone, judge of races.....	100 00
Jas. Magee, distance judge.....	7 50
T. B. Curley, clerk of scales.....	10 00
D. W. Martin, marshal at track.....	12 50
Geo. Culbertson, marshal at track.....	12 50
Thos. Knightley, police.....	7 50
A. O. Perkins, ticket clerk.....	20 00
J. S. Sullivan, ticket clerk.....	12 50
C. H. Rowley, entry clerk.....	20 00
E. E. Packard, entry clerk.....	12 50
J. A. Sweetser, doorkeeper.....	17 50
Wm. Smith, gatekeeper.....	17 50
F. A. Woodworth, gatekeeper.....	17 50
A. W. Boeseke, gatekeeper at track.....	7 50
J. G. Fesler, gatekeeper at track.....	7 50
F. A. Dille, gatekeeper at track.....	7 50

M. S. Cheeney, night watchman .....	\$16 00
T. P. A. Williams, night watchman .....	10 00
Printing and advertising .....	303 75
Strobridge Lithograph Company, posters .....	45 00
Fair Publishing Company, supplies .....	34 30
H. Muzzall, stationery, etc. ....	4 45
Silver cups and spoons, prizes baby show .....	49 00
Music, day and evening .....	290 00
Santa Barbara Water Company .....	20 45
Electric Light Company .....	30 00
M. F. Hamer, 'bus badges, etc. ....	13 30
Straw for bedding .....	105 00
Rent of chairs for Pavilion and Grand Stand .....	25 50
Pierce Bros., office furniture .....	10 00
Lumber .....	43 56
Booth & Packard, hardware, etc. ....	11 65
Carpenter work .....	25 00
F. Packard, labor and team work .....	32 10
Labor .....	41 00
Carting .....	1 00
Disinfectants .....	2 00
Bill posting .....	12 38
Freight and cartage .....	2 20
Wells, Fargo & Co., express charges .....	20 40
W. E. Noble, cloth .....	14 08
Humphrey & Elliott, chicken coops .....	3 60
R. E. Atkinson, supplies .....	12 00
H. B. Brastow, expenses delegate to Los Angeles .....	17 25
Rent of Pavilion and grounds .....	300 00
Office rent in Santa Barbara .....	35 00
Goulding & Clancy, rent box stalls and work on race track .....	125 00
Postage stamps, postal cards, etc. ....	11 17
Extra premium to —, Broughton .....	3 00
Extra premium to Gertrude Frost .....	1 00
Extra premium to Mrs. Bertis .....	2 00
Jas. Morgan, Superintendent Horse Department .....	20 00
Mrs. M. F. Hamer, Superintendent Ladies' Department .....	10 00
Mrs. E. Baley, Superintendent Children's Department .....	10 00
Mrs. I. R. Baxley, Superintendent Fine Arts Department .....	10 00
A. L. Lincoln, Treasurer .....	25 00
Chas. P. Low, services and expenses .....	30 90
G. C. Packard, services and expenses .....	30 90
A. Hayman, services and expenses .....	30 90
J. C. Chamberlain, services and expenses .....	30 90
S. P. Stow, services .....	25 00
D. M. Dimmick, services .....	25 00
R. Kinton Stevens, services .....	25 00
T. P. Izard, services .....	25 00
H. B. Brastow, Secretary .....	300 00
	<hr/>
	\$7,518 34

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 19.

### (South Half of Santa Barbara County.)

Owing to the small amount of rainfall during the winter of 1893-4, we have a very peculiar diversity in the products of the soil for our district; and while some farm products were a total failure, others did fairly well, and the crop of fruit and nuts, except almonds, was rather in excess of the average crops. More than the usual acreage of small grains (principally barley) was sown on such territory as is usually given to this crop, but a large portion of the land so sown was only fit for pasturage, and the best of the crop was cut for hay. No barley was threshed in the district this year. On bottom lands, which had been well cultivated, corn gave about the usual yield. Squash, which are a great crop with us and are fed to cattle, yielded more than an average crop. We had on exhibition at our fair squashes of nearly 300 pounds weight; and in some fields one could walk across the field on squashes without touching

the ground. All root crops gave good returns. Beets were shown weighing 30 pounds each; potatoes, carrots, and other vegetables of immense proportions—all raised without irrigation. The exhibit of farm products at our fair in September last, taken as a whole, was a surprise to every one, and clearly demonstrates the fact that thorough cultivation of the soil in our district will bring good crops, even in a dry year, without irrigation.

The yield of citrus fruits was abundant. Nearly 2,000 boxes of oranges and lemons were shipped away, leaving a generous supply for home consumption. All other fruits were up to the average for quantity and quality. The output of dried fruits (principally apricots, peaches, and prunes) is estimated at 90 tons. As some young walnut orchards came into bearing this year, the shipment will reach 350 tons or over. One orchard in Goleta will ship 125 tons, having already sent nearly 100 tons. Almonds gave a very light crop. Small berries, which require irrigation, have been raised in great abundance; and strawberries are still bearing, and will continue to do so throughout the year.

The lima bean, and in fact all other varieties, is one of our principal crops, the best land being given up to them. Against 1,200 tons shipped last year, we shall have only 200 tons this season.

Of pampas plumes we shipped this year 1,500,000. They are of the usual size, but not quite as heavy as last year, selling at \$13 per thousand, against \$15 per thousand last year.

The manufacture of olive oil, one of our industries, represented principally by Ellwood Cooper, at Ellwood, and the El Montecito Manufacturing Company at Montecito, is still in active operation, producing oil of a superior quality, which finds a ready market at home and abroad. One of the finest exhibits at our Fair was a pyramid of bottled oil shown by the El Montecito Manufacturing Company. Mr. Cooper's oil was shown at the Chicago and Midwinter fairs. We are not able to get an estimate of this year's crop of olives, as they have not sufficiently matured for picking. The impression is that the crop will be small, but of superior quality.

The output of bituminous rock has been large, and we seem to have an inexhaustible supply. The California Petroleum and Asphalt Company are running their works at Carpenteria up to their full capacity. The Punta Gorda Asphalt and Paving Company are producing sufficient material for their contracts and have a large body of rock in sight. As an experiment, our City Council ordered three carloads of crude rock from the Carpenteria mine. This was spread on a common roadbed surface on one of our streets and rolled with a seven-ton roller, leaving it about two inches thick after rolling, and it is found to make nearly as good a pavement put down in that cheap way as by the more costly method usually adopted. The result is so satisfactory that the city as a further experiment has just made a contract for sufficient rock from the same mine to cover a mile of street sixteen feet wide in the center.

At Summerland, five miles from Santa Barbara, a number of wells have been put down for oil. Several of them at no great depth are producing oil of good quality. The latest strike is a fifty-barrel well. Other parties are making preparations to bore in the vicinity.

Respectfully submitted.

HENRY B. BRASTOW,  
Secretary.

CHAS. P. LOW,  
President.



DESCRIPTIVE REVIEW  
OF THE  
RESOURCES OF AGRICULTURAL DISTRICT No. 20,  
Composed of the County of Placer,  
FOR THE YEAR 1894.

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As the years roll by, Placer County is found, as usual, full of bright prospects and possibilities, always pushing forward and onward, keeping pace with the times in this age of improvements and discoveries, and maintaining her proper place in the van with her sister counties of the State.

As to products, it is only necessary to say that what can be grown elsewhere in California can be grown in Placer County.

Notwithstanding the financial crisis we, as a nation, have been experiencing, and the railroad strike of last summer, which seemed, for the time, to completely paralyze business and cripple industries of every nature and character, the business institutions and industries of this county are not only in existence, but in a prosperous, healthy condition, and without a single failure to record. The fruit men, who suffered far more than those engaged in other pursuits, are not discouraged, but are at the present time busily engaged in pruning, plowing, cultivating, and preparing for what bids fair to be another prosperous year.

One apparent result of the railroad strike is an increased amount of prospecting for quartz ledges and deep-channel gravel mines, and very rich and lucky locations are reported quite frequently.

Our transportation facilities are the same as they were a year ago: The main line of the Central Pacific extending almost the entire length of the county, and the California and Oregon branch from Roseville Junction to the county line near Wheatland, in Yuba County.

Our new court-house, now being constructed of granite, iron, steel, brick, and terra-cotta, is rapidly assuming proportions. The first story is completed, and the contractors are busily engaged in the construction of the second and third stories. It is expected that the building and furniture will cost about \$150,000, and when completed will be one of the finest court-houses in the State.

Active steps are being taken towards the location and erection of a fruit cannery at Auburn, this season, which will be a great help, or rather a boon, to the producer and facilitate the fruit business generally, to say nothing of the employment it will give to hundreds of willing hands.

The assessment roll for the year 1894 shows an assessed valuation

of taxable property of \$10,129,919, and the tax rate for said year is 1.70. Our county debt is \$80,000, in "court-house" bonds issued this season.

The City of Auburn has just completed a new sewer system at a cost of \$20,000, which will maintain her reputation, as well as that of the entire county, as a health resort.

No other county in the State has so great a diversity of industrial pursuits within its borders. Its timber in the higher altitudes; its valuable mines in the upper and middle sections; its fruit in the famous "thermal" belt; its stone interests at Penryn, Rocklin, and Lincoln; its great potteries; its waving wheat fields; its stock interests, besides various industries projected in the near future, combine to render it one of the most favored lands in the world.

G. W. ARMSTRONG,  
Secretary.

DESCRIPTIVE REVIEW  
OF THE  
RESOURCES OF AGRICULTURAL DISTRICT No. 21,  
Composed of the County of Fresno,  
FOR THE YEAR 1894.

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The county of Fresno contains about 4,500,000 acres of land, of which about 3,500,000 acres are mountains and pasture lands, and 1,000,000 acres are valley lands, well adapted to agricultural purposes. This county is situated in the center of the great San Joaquin Valley, including in its confines portions of both the Sierra Nevada and Coast Range Mountains. The soil of the valley lands is a sandy loam, peculiarly adapted to the culture of the tree and vine.

*Rainfall, Irrigation Facilities, etc.*—The average rainfall is about 8 inches, and while this is not enough to produce sufficient moisture for the growth of trees, vines, and vegetables, there is, however, usually sufficient to insure excellent crops of grain, and where summer-fallowing is resorted to such a thing as a failure is almost unknown. As there is not sufficient rainfall for all purposes, irrigation is resorted to, and at the present time the county contains some 1,300 miles of irrigating canals. The valley lands have a gentle slope from the east to the northeast, which makes it possible to place every acre of land between the Kings and San Joaquin Rivers under cultivation. While the drought of the past year was extremely disastrous to the interests of the State at large, one effect will be to direct attention to that portion which is susceptible of irrigation, and where a failure of crops is unknown. While the grain crop of the unirrigated portion of Fresno County was almost a complete failure last season, good crops were obtained from irrigated lands, with the result that this year a large percentage of the acreage planted will be on land susceptible of irrigation, thus insuring a crop. There is no lack of water, our irrigating canals being fed by the Kings River, which has its source in the never-failing snow of the high Sierra.

*Horticulture.*—There is no limit to the variety and range of products, owing to the varying elevation, which ranges from nearly sea-level to an altitude of 10,000 feet or more. Principal among the products of horticulture may be named grapes and all kinds of tree fruits (peaches, pears, and apricots, as well as all other known varieties of stone fruits) in the valley, oranges and lemons in the foothills, and apples at a still higher altitude. The possibilities of the county for the purposes of fruit growing are too well known to require repeating, and as figures speak plainer than words in such cases, the following statement of shipments for 1894 will suffice: Raisins, 58,000,000 pounds; dried fruit, 8,500,000



pounds; green fruit, 5,500,000 pounds; wine and brandy, 1,500,000 gallons.

No country in the world presents more favorable conditions for the successful handling of fruit than does the central portion of the San Joaquin Valley, or, in other words, Fresno County. The steady and equable heat of the summer months, combined with an exceedingly low degree of humidity and absence of early rains, enables the orchardist and vineyardist to dry the product of his orchard or vineyard by the cheapest and best known process—the rays of the sun—thus avoiding the expense incident to the drying of fruit by use of artificial driers. If, therefore, it should appear unprofitable to ship their fruit green, our people have the alternative of drying and holding until such time as it suits them to sell. Fresno County is the American home of the raisin grape, and the county owes much of its worth and standing among the other counties of the State, to the success of this particular industry.

In 1880 the population of the county was 9,478, and in 1890 it was 31,158. In 1880 the shipments of raisins from the entire State amounted to but 1,500,000 pounds, whereas in 1894 they had increased to 58,000,000 pounds. From this it will be readily seen that it is more to the raisin industry than to any other factor, that our growth in wealth and population is due. The area in Muscat vines, which produce the raisin grape, amounts to 50,000 acres. For the past two years the industry has not been as profitable as in former years, but it is a well-known fact that the difficulty lies in the manner of marketing our raisins and is not due to over-production. There can be no gainsaying the fact that intelligent and concerted action on the part of those most vitally interested will result in bringing about conditions which will give to the vineyardist a fair return for the labor and energy expended.

Prior to the season of 1893 scarcely any figs were packed for shipment East. In 1893, however, as a result of the cholera scare, an embargo was placed on Smyrna figs, a demand was created for the home-grown article, and about 500,000 pounds were packed and shipped East during that year. In 1894 the effect of the cholera scare had passed away, but there has been no decrease in the shipment of figs from this county. This shows that a permanent demand has been created, and proves that with care in curing and packing, there will be no difficulty in disposing of all that we can produce. It is a matter of record, too, that while the prices realized for other dried fruit have been ruinously low, figs have been sold at prices which pay handsome returns to the producer.

*The Wine Industry* is also one of the county's most prominent features, but, like other products of agriculture, has suffered from the general depression. The output for 1894 amounts to about 1,500,000 gallons. The soil of this section of the State is possessed of certain properties which impart the desired proportions of saccharine ingredients to our wine grapes and thus enables us to produce a sweet wine that is second to none in the State. Within the past three years many thousand tons of second-crop Muscat grapes, heretofore considered unfit for any use, have been converted into Muscat wine and brandies, which are rapidly finding favor in the eyes of consumers. It is hoped and confidently expected that the demand for these wines and brandies will continue to grow to such an extent as to eventually exceed our ability to supply the demand.

*Cereals and Stock-Raising.*—As a grain-producing district, Fresno County ranks third in the State. Statistical information showing acreage, etc., is not available. Stock-raising has always been a prominent feature; in fact, it is only a decade since what is now the most fertile and prolific land under the sun was only considered fit for stock ranges, and was entirely devoted to that purpose. Each year witnesses a disposition on the part of our agriculturists to diversify their pursuits to a greater degree than has heretofore been considered necessary by the people of California, with the result that, it is to be hoped, the conditions here will finally be brought into line with those existing in the other States farther East, in some of which, notably the State of Ohio, the number of cattle raised annually exceeds the record made in the State of Montana. It is to be regretted that the small farm owners of the State are not quite living up to their opportunities of supplying our local markets. In an address made before the Technical Society of the Pacific Coast a short time since, Mr. W. G. Curtis pointed out that during the year 1893 there were brought from the East by rail lines into the Pacific Coast States, practically all of it coming into California, 39,945,000 pounds, or about 2,000 ten-ton carloads, of stock-farm and poultry-yard products, either in their natural state or manufactured into stable commodities.

*The Wool Industry* has always occupied a prominent place in our industries, and until recent adverse legislation, was considered one of the most profitable. However, present conditions are most unusual and cannot be expected to last.

*Lumber Industry.*—The Sierra Nevada Mountains are covered with an almost inexhaustible supply of timber, comprising sugar and yellow pine, Sequoia (redwood), and fir. The yellow pine is the most extensive, and is, of course, in the greatest demand. The supply of redwood also appears to be unlimited and the quality is conceded to be equal to that obtained anywhere else. The lumber is brought from the mountains in two flumes, each about 45 miles long. The building of these flumes was a great enterprise, accomplished at the expenditure of sums aggregating not less than \$3,000,000. The terminus of one flume is located at Sanger and the other at Clovis, at which points the box and sash and blind factories are located; and in connection with these, the flumes and sawmills in the mountains give employment to many hundred men, and in divers ways contribute to the wealth of the county. Up to a short time ago the product of these mills was disposed of principally within the confines of the State, only a small percentage going into Arizona and New Mexico. Within the past two years, however, the scope of the business has been gradually extended, and at the present time we are shipping to Utah, Colorado, and even into Kansas. Only a short time since it was discovered that the Sequoia furnished a most desirable material for making lead-pencil wood. A carload has been shipped to the Faber's manufactory in New York, and inquiries are being received from foreign countries. There is every reason to believe that a new industry, which will make a material addition to the wealth of the county, will be developed.

*Minerals.*—There is no lack of mineral wealth, but like other portions of the State our mines remain undeveloped. There are vast mountains of iron ore in the Sierra, which will some day prove to be one of the greatest sources of wealth to this community as well as to the State at

large. Some gold is obtained from placer mining, but the work is carried on in a desultory manner. There is no end of granite, the finest in the world, in the foothills, situated conveniently to rail transportation. Deposits of coal, which answers very well for steam purposes, asphalt, and gypsum, are to be found in the Coast Range. The visible supply of gypsum appears to be inexhaustible, and it is well that it is so. The enormous crops produced by irrigation cause quite a drain on the soil, the ill effects of which Mother Nature seems to have provided against by placing close at hand a never-failing supply of gypsum, the application of which to the soil, not only acts as a neutralizer of alkali, but also restores those properties which in time become exhausted.

*Remarks upon the Gathering of Statistical Information.*—As the need for reliable and accurate information regarding the acreage of trees and vines is constantly growing, it would seem as though means for compiling reliable statistics of this character should be provided. Some years ago the State Board of Equalization arranged to have printed on the back of assessment lists a blank statement, which would, if properly filled out, place in the hands of the County Assessor complete and accurate information as to the age, number, and kind of the different varieties of trees, and the age, number of acres, and varieties of vines planted. It is to be regretted that the blanks are not always filled out, and when they are it too often happens that the work is done by a Deputy Assessor in a perfunctory manner, and without any regard as to the accuracy of his figures. Property owners themselves do not always show a disposition to comply with the request to fill out the blank, and it frequently happens that, either through neglect or direct refusal, no information is given at all. The printed list referred to is not a part of the blank provided by law, hence there is no legal obligation on the part of either the Assessor or the property owner to fill it out. When the information was first asked for the various Boards of Supervisors were in the habit of instructing the Assessor that particular attention be given it, and every effort put forth to obtain accurate data. With the lapse of time, however, and consequent changes in the personnel of the different Boards of Supervisors, less time and attention have been given the matter, until it has finally reached the point where the information compiled is so unreliable as to be of no value whatever. The only way that accurate and reliable information can be obtained through the medium of the Assessor's office is to make it a legal obligation on the part of the property owner. To do this it would be necessary to incorporate the list of questions in the blank which the law provides shall be filled out for the information of the Assessor in levying his assessment. It is presumed that in order to bring about a change of this character it would be necessary to amend the statutes governing the assessing of property; and if there be any merit in the proposition to present the matter for the consideration of our law-makers, I know of no one who is better qualified to do so than the worthy Secretary of the State Board of Agriculture, Mr. Edwin F. Smith.

JOHN REICHMAN,  
Secretary.



# REPORT

FROM THE

## TWENTY-SECOND DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of San Diego,

FOR THE YEAR 1894.

**Officers.**—Chester Gunn, President; George M. Dannals, Secretary; Bank of Commerce, Treasurer.

**Directors.**—Chester Gunn, Julian; Charles W. Pauly, San Diego; W. W. Stewart, San Diego; Chas. A. McDougall, Escondido; John Judson, San Pasqual; F. F. Adams, Fallbrook; W. H. Baldrige, Escondido; Wm. B. Prentice, Helix.

SAN DIEGO, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Twenty-second District Agricultural Association submit this, their report of said association, for the year ending this date:

		RECEIPTS.	
1893.			
Dec. 1—	On hand last report .....	\$333 03	
	Less unpaid warrants .....	54 25	
1894.			\$278 78
Sept. 25—	Sale of material .....	\$19 65	
	Privileges .....	55 05	
	Sale of tickets .....	722 40	
Oct. 23—	Freight returned .....	7 04	
25—	Donations .....	22 00	
	State appropriation .....	2,000 00	
30—	Stamps .....	46	
			\$2,826 60
Nov. 26—	Loan from Bank of Commerce .....	130 00	
	Unpaid warrants .....		• 49 50
	Total .....		<u>\$3,284 88</u>
		EXPENDITURES.	
1894.			
Aug. 13—	Stamps .....	\$20 00	
Sept. 26—	Rent .....	200 00	
29—	Music .....	165 00	
Oct. 5—	Lights .....	201 05	
3—	Expense of officers .....	87 00	
5—	Material .....	185 24	
	Printing and advertising .....	239 00	
	Labor .....	226 20	
	Freight and drayage .....	21 40	
	Miscellaneous .....	115 28	
24—	Premiums .....	858 40	
	President .....	250 00	
	Secretary .....	200 00	

Oct. 25—Paid Bank of Commerce note.....	\$275 00	
Interest and discount.....	46 55	
		\$3,090 12
Balance in banks—		
California National Bank.....		81 69
Consolidated National Bank.....		110 21
Bank of Commerce.....		2 86
		\$3,284 88

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 22.

(San Diego County.)

OFFICE TWENTY-SECOND DISTRICT AGRICULTURAL ASSOCIATION, }  
 SAN DIEGO, CAL., December 1, 1894. }

*Hon. E. F. SMITH, Secretary State Agricultural Society:*

SIR: A statement of the products of San Diego County this year, as gathered from the books of the County Assessor, together with other information relative to its resources, is herewith given, and will be found by comparison with previous reports to show a marked and highly creditable increase. The summary of products is as follows:

*Cereals and Miscellaneous.*

	Number Acres.	Number Centals.
Wheat.....	9,032	3,336
Oats.....	8,371	530
Barley.....	9,400	6,126
Corn.....	1,315	830
Hay.....	12,448	(tons) 1,383

Coal.....	11,244 tons.
Brandies and other liquors.....	9,325 gallons.
Wines.....	51,000 gallons.
Bee hives.....	11,091 hives.

*Live Stock. (Number of head.)*

	Common.	Thorough- bred.	Halfbreed.	American.	Spanish.
Cattle.....	18,776				
Calves.....	3,173				
Hogs.....	2,996				
Sheep—graded.....	12,438				
Lambs.....	1,000				
Goats.....	795				
Colts.....	1,486				
Mules.....	545				
Horses.....		75	2,325	1,011	3,786
Cows.....		133		593	3,160
Ostriches.....	25				

*Fruit and Nut Trees, and Vines.*

	Bearing.	Non-Bearing.	No. Acres.
Apple .....	17,752	42,977	-----
Apricot .....	16,503	34,745	-----
Cherry .....	1,243	5,559	-----
Fig .....	8,713	23,513	-----
Olive .....	12,102	65,905	-----
Peach .....	27,672	90,149	-----
Pear .....	8,254	22,980	-----
Prune—French .....	16,102	79,471	-----
Lemon .....	11,470	281,563	-----
Orange .....	22,620	114,043	-----
Almond .....	3,405	11,287	-----
Walnut .....	2,593	15,579	-----
Grapes—table .....	-----	-----	295
Grapes—raisin .....	-----	-----	2,444
Grapes—wine .....	-----	-----	483

As showing the remarkable growth of the fruit industry in this county, the following table is given, being a correct enumeration of—

*The Number of Trees Growing in 1881.*

Apple .....	3,664
Pear .....	894
Lemon .....	1,172
Peach .....	5,834
Orange .....	2,680

In addition to the numerous varieties of fruit as shown above, we have the citron (true citron of commerce), loquat, guava (grown in profusion and perfection here, the only locality in the State where it can be cultivated successfully), while the pineapple, banana, and date are being propagated with excellent results, and the promise of more extended effort.

In small fruits, as currants, gooseberries, blackberries, and raspberries, the highest altitudes in the county are producing the finest varieties, while strawberries are grown every month in the year in the "bay region."

The culture of the olive and the manufacture of oil are increasing annually and rapidly, the oil from the F. A. Kimball mill at National City being pronounced by experts as equal to any made.

The attention given to stock-raising is increasing steadily, the introduction of pure-bred horses and cattle during the past four or five years promising great improvement in the future. Our association designs using its very best efforts in the direction of substantial encouragement to this important department of its general work.

Dairying, one of the most profitable and successful industries to which capital and experience can be directed, has notably increased during the past three years, its development, however, being confined principally to milk and butter.

Our wine product is improving both in quantity and quality, the local demand being quite in excess of the supply.

This county continues to maintain its extended reputation for producing the very best honey in this State, the output varying according to season at from 1,500 to 1,800 tons.

In addition to our inexhaustible supply of fine granite, porphyry, and sandstone of the best quality for building and other purposes, we pro-



duce excellent asbestos, lime, salt, and cement, the latter being equal in durability and finish to the best Portland.

Our fisheries interest is receiving marked attention, and more during the past year than ever before, the field here being a wide and absolutely profitable one.

The gold-mining industry of this county is becoming quite prominent, having been largely developed during the past five years. It is confined almost wholly to quartz work, and has paid remarkably well. The investment of capital for working purposes in any of the districts in this county is absolutely safe and equally desirable, as evidenced by the numerous sales of mines during the past year, made to purchasers with large experience and ample means. Out of some one hundred mines in the county in different stages of development fully one fourth of the number are being worked with good success and reasonable profit.

This county has two complete irrigation systems controlled by private capital—the Sweetwater, with a capacity for supplying 18,000 acres of land, and the flume system, with a capacity quite as large—the quantity and quality of the water being perfect, and the management of both enterprises being liberal, intelligent, and successful. The Mount Tecarte Company, a corporation, is actively engaged in the development of a system that will equal the combined capacity of the two first named, and when completed will be of vast importance to the southern portion of the county. The Escondido irrigation district is progressing rapidly and nearing completion; when finished the entire Escondido Valley will be furnished with a never-failing supply. The Pamo and Jamacha districts have completed their organizations, and are now endeavoring to negotiate their bonds, with excellent prospects of success. From all of these it will be seen that the promise of an ample water supply for at least two thirds of all the arable lands in the county now requiring irrigation is highly encouraging.

The assessed valuation of property in this county for the year 1894 is as follows:

Real estate, lots, and improvements.....	\$20,449,124 00
Personal property and money.....	2,057,247 00
Total .....	\$22,506,371 00

The registration of voters this year was 8,449; the total vote cast was 7,124; both indicating a large increase in population during the past two years. The last school census shows 7,670 census children, a total enrollment of 6,821, and a daily average attendance in schools of 4,740. The whole number of children under 17 years of age was reported at 10,651, of which number only 461 were foreign born.

Number of High Schools, 7; Grammar grade, 61; Primary, 117. Number of male teachers, 41; female teachers, 162. Value of school property, \$383,168; current expenses of schools, \$140,691 88. In this connection it may be said that no county in the State takes greater pride in educational matters than this, nor is there one of its size better prepared with commodious school buildings, modern apparatus, and thoroughly conscientious and efficient teachers.

Altogether this county possesses very many preëminent advantages, particularly in the productiveness of its diversified soils and the variety of climatic conditions. Its altitudes range from the semi-tropic sea-level to the Coast Range of mountains, 60 miles in the interior, where winter

snows prevail. This variability in soil and climate permits the successful propagation of every variety of fruit grown in the State.

The city of San Diego, the county seat, has a population of 18,000, and possesses one of the finest harbors on the Pacific Coast, its area being 23 square miles, its length 13 miles, with a depth of 22 feet at low tide and 28 feet at high tide on the bar. It is perfectly land-locked and has miles of easily available water frontage for wharf purposes. Indications now point with reasonable certainty to favorable action by Congress at its coming session, in response to the imperative demand of the entire country for Government aid to the great Nicaragua Canal project, and while the whole Pacific Coast would be immeasurably benefited by the completion of this great national work, San Diego would undoubtedly realize a larger share of direct, immediate, and permanent growth and commercial benefit than any other port of entry in the State.

With the great maritime interests thus created, added to our resources from rich, diversified, and highly productive soil, ample water supply for irrigation and domestic purposes, an average rainfall of 10 inches, and the most equable and therefore the most genial and healthful climate in the world, this county will be a source of pride to the Twenty-second District Agricultural Association, which is using its best endeavors for its general upbuilding.

GEO. M. DANNALS,  
Secretary.

## REPORT

FROM THE

## TWENTY-THIRD DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Contra Costa,

FOR THE YEAR 1894.

**Officers.**—Harvey Burdell, President; F. L. Loucks (Pacheco), Secretary; H. M. Bush, Treasurer.

**Directors.**—George P. Loucks, Pacheco; Harvey Burdell, Pacheco; J. E. Durham, Concord; H. H. Elworthy, Concord; George Sellers, Brentwood; A. W. Glass, San Ramon; H. M. Bush, Martinez; H. J. Curry, Martinez.

PACHECO, September 24, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Twenty-third District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Balance in treasury .....	\$19 74	
From entries in races .....	1,077 50	
From memberships .....	820 00	
From day tickets .....	613 50	
From privileges .....	451 50	
From rent of grounds .....	25 00	
From Bank of Martinez, loan .....	1,500 00	
Due from State appropriation .....	1,750 00	
Due from County appropriation .....	250 00	
Due from race entries .....	35 00	
		<u>\$6,542 24</u>

1894.

## EXPENDITURES.

Sept. 22—Paid premiums—Live Stock Department .....	\$666 75	
Pavilion Department .....	545 25	
		<u>\$1,212 00</u>
Races, 1894—		
Sept. 18—No. 1, pacing purse .....	\$150 00	
No. 2, trotting purse .....	150 00	
No. 3, running purse .....	75 00	
19—No. 4, trotting purse .....	500 00	
No. 5, running purse .....	150 00	
20—No. 6, three-year-old stake .....	200 00	
No. 7, gentlemen's driving purse .....	100 00	
21—No. 8, trotting purse .....	150 00	
No. 9, pacing purse .....	300 00	
No. 10, pacing purse, exhibition .....	75 00	
22—No. 11, one-year-old stake .....	135 00	
No. 12, mule race .....	50 00	
No. 13, slow race .....	25 00	
Ladies' tournament—Miss Lewellyn, first prize .....	20 00	
Miss Liberty, second prize .....	15 00	
Miss Elliott, third prize .....	10 00	
Miss Ivy, fourth prize .....	5 00	
		<u>2,110 00</u>



Salaries—			
F. L. Loucks, Secretary	.....	\$100 00	
C. J. Wood, Assistant Secretary	.....	18 00	
Mrs. D. Childs, Assistant Secretary	.....	18 00	
George Shafer, marshal	.....	30 00	
E. C. Feitho, marshal	.....	5 00	
L. A. Wells, superintendent of stables	.....	18 00	
George Woolford, superintendent of pavilion	.....	18 00	
Mrs. J. E. Durham, matron of pavilion	.....	18 00	
William Bautz, watchman	.....	18 00	
A. Bush, watchman	.....	15 00	
H. J. Nelson, gatekeeper	.....	15 00	
William Dunnigan, gatekeeper	.....	15 00	
H. Hoffman, marshal	.....	1 50	
			\$2,100 00
Printing and Advertising—			
Sept. 22—U. S. Printing Co.	.....	\$20 50	
29—Contra Costa Democrat	.....	45 50	
Antioch Ledger	.....	46 00	
Concord Sun	.....	46 00	
Walnut Creek Sentinel	.....	40 00	
Contra Costa Gazette	.....	82 50	
			280 50
Merchandise and Supply Account—			
Sept. 4—G. P. Loucks, pass books and cards	.....	\$4 90	
29—George Hanson, hay	.....	144 56	
Charles Pramberg, engine and supplies	.....	15 60	
Randall Bros., nails	.....	3 60	
Lasell Co., merchandise	.....	5 31	
M. Soto, towels	.....	1 75	
J. Morrow, pump fixtures	.....	2 50	
E. Morgan, pumps and fittings	.....	39 07	
L. Anderson, lumber	.....	11 80	
E. A. Majois, straw	.....	22 50	
Blum & Co., lumber	.....	51 38	
I. Weiss, merchandise	.....	11 55	
M. Breckenridge, hardware	.....	18 55	
Neville & Co., six pennants	.....	15 00	
M. J. Curry, bat and ball	.....	2 25	
H. A. Rowley, stationery and postage	.....	3 95	
W. K. Cole & Co., stationery	.....	2 35	
			356 62
Labor Account—			
Sept. 29—H. Miller, whitewashing and cleaning	.....	\$75 30	
McKenna & Wells, plumbing and repairs	.....	5 50	
Bott & Smith, blacksmithing	.....	22 55	
D. B. Francis, labor and team	.....	21 00	
J. Beaudette, carpenter work	.....	21 00	
F. S. Swart, carpenter work	.....	3 50	
W. L. McDonald, labor and team	.....	10 00	
			158 90
Incidentals—			
Sept. 4—G. P. Loucks, insurance \$60, expressage \$5 60, expenses \$7 50	.....	\$73 10	
April 24—National Trotting Association, dues	.....	15 00	
Sept. 21—Concord Baseball Club, purse	.....	25 00	
29—F. L. Loucks, telephone	.....	2 05	
C. F. Montgomery, expenses	.....	15 00	
J. C. Galindo, rent of grounds	.....	200 00	
Mrs. Downing, right of way	.....	20 50	
29—H. Eicher, note \$350, interest \$27	.....	377 00	
Pacheco Lodge, No. 117, I. O. O. F., interest	.....	36 65	
21—A. B. Tennent, entrance in race refunded	.....	20 00	
22—W. H. Bowen, cash refunded	.....	5 00	
H. A. Rowley, music	.....	190 00	
F. Simpson, medal	.....	15 00	
			994 30
Total expense	.....		\$5,401 82
Balance	.....		1,140 42
DR.			
Amount borrowed from Bank of Martinez	.....	\$1,500 00	
Amount borrowed from Pacheco Lodge, No. 117, I. O. O. F.	.....	500 00	
			\$2,000 00
CR.			
Amount due and in treasury	.....	\$1,140 42	
Liabilities, October 1, 1894	.....	859 58	
			2,000 00

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 23.

(Contra Costa County.)

The year just closed has not been one of great prosperity in an agricultural sense. The lack of seasonable spring rains, and the continuance of unusual drying winds during the critical months of March and April, tended to retard the growth of young grain to such an extent as to materially affect the yield, while heavy rains during May and June rendered large quantities of hay unmarketable, and greatly reduced in value much that was exposed.

The eastern portion of the district, bordering on the San Joaquin, escaped the general bad effects, so far as wheat is concerned, owing to the system of summer-fallowing there in vogue. Several prominent farmers of that locality report an average yield of wheat of 3,200 pounds to the acre. This section is the only one in which wheat can be raised at a profit at present prices, as, owing to the level character of the land, improved harvesting machinery can be used, thus doing away with the expense entailed by the old system of heading and stacking, and afterward threshing the grain.

The large interior valley of the county, extending from Suisun Bay on the north to the county line on the south, is about 25 miles in length, and varies in breadth from  $\frac{1}{2}$  to 10 miles. This valley has the various local names of Pacheco, Diablo, Ignacio, San Ramon, and Amador Valley, and was formerly the great wheat-producing section of the district, but is now largely devoted to fruit and hay. The natural growth is wild oats, and often gives a yield of two tons per acre as volunteer, but the usual custom is to plant wheat, barley, or oats. The transportation facilities of this section are excellent, and render it more profitable to raise hay than grain.

To the west of this valley is a range of wooded hills which inclose many small valleys of extraordinary fertility. The principal of these is the famous Alhambra Valley, which begins at Martinez and extends south about 8 miles. This valley is divided into many small farms and is devoted to orchard, vineyard, and small fruit culture. Experiments have here been made in the culture of citrus fruits, and have uniformly been successful. This valley contains several mineral springs, whose waters are valuable for medical purposes, and a number of health resorts are well patronized.

These small valleys are generally watered by never-failing springs, and their possibilities for the production of small fruits and vegetables are unlimited.

The southwestern portion of the district, known as Moraga Valley, is largely devoted to dairying, although considerable hay is grown there. The products of this section are marketed in Oakland, and are transported in wagons, the farmers having the advantage of dealing directly with the consumers.

The future of this section seems assured, as a railroad is being built, and there is also a project to tunnel the intervening mountain, thus giving an easy wagon road to Oakland.

There has been but little if any increase in the acreage planted in fruit trees and vines this year.

There are about 5,000 acres of grapes in this district, principally in the northern part.

Wine grapes are sold principally in San Francisco and Oakland.

Although prices have ruled low, owing to moderate freight charges grape growers have fared rather better than in other sections of the State, obtaining from \$9 to \$12 per ton net.

Respectfully submitted.

F. L. LOUCKS,  
Secretary.

PACHECO, December 21, 1894.



## REPORT

FROM THE

## TWENTY-FOURTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of part of the County of Santa Cruz,

FOR THE YEAR 1894.

**Officers.**—Jas. Waters, President; T. F. Murray, Secretary; J. J. Morey, Treasurer.**Directors.**—Jas. Waters, Watsonville; T. J. Horgan, Watsonville; Geo. D. Rodgers, Watsonville; J. A. McCune, Watsonville; C. E. Bowman, Corralitos; P. J. Thompson, Watsonville; O. H. Willoughby, Watsonville; J. A. Linscott, Watsonville.

WATSONVILLE, November 1, 1894.

*To the honorable the State Board of Agriculture :*

GENTLEMEN: The Directors of the Twenty-fourth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS		
Balance on hand .....	\$4 63	
Door receipts .....	408 30	
Season tickets .....	119 50	
Candy privilege .....	8 00	
State warrant .....	1,500 00	
Ice cream privilege .....	15 00	
		\$2,055 43
Cash advanced by the Sonoma Valley Bank .....		68 53
		<u>\$2,123 96</u>
EXPENDITURES.		
Corralitos Band, music .....	\$50 00	
Watsonville Band, music .....	60 00	
Burbeck's Orchestra, music .....	104 00	
W. W. & Mary A. Ford, rent of rink .....	110 00	
C. E. Bowman, drayage .....	3 50	
T. F. Murray, Secretary .....	100 00	
Carrie Linscott, Assistant Secretary .....	12 00	
Cooper Estate, rent of showcase .....	1 00	
Maxim Gas Co., gas .....	20 00	
Eva Leland, rent of room .....	5 00	
Pajaronian, printing and advertising .....	45 75	
Rustler, printing and advertising .....	45 00	
Register, printing and advertising .....	9 50	
Transcript, printing and advertising .....	52 50	
Wesley Coates, labor .....	16 00	
W. A. Sanborn, doorkeeper .....	15 00	
J. A. McCune, attending exhibit .....	75 00	
R. C. Plaskett, labor .....	7 20	
S. Rudebeck, labor .....	4 80	
W. F. Inlay, hauling .....	2 00	
W. B. Chapman, doorkeeper .....	12 00	
Dan Yoacham, labor .....	3 75	
A. Barlow, night watch .....	8 00	

E. F. Sanborn, doorkeeper.....	\$16 00
J. Haberlin, decorating.....	5 00
W. McCormick, labor.....	10 50
W. M. Woodward, entertainment.....	150 00
Race Committee, Camp Goodall races.....	250 00
T. F. Murray, stamps and stationery.....	2 50
C. H. Litchfield, merchandise.....	1 00
Madden & Sheehy, merchandise.....	1 50
Grover-Cunningham M. & L. Co., merchandise.....	11 07
C. W. Polk, merchandise.....	1 00
Loma Prieta Lumber Co., merchandise.....	9 16
D. Alexander, merchandise.....	2 36
Burbeck & Co., merchandise.....	1 90
F. J. Chapman, merchandise.....	2 50
Charles Ford Co., merchandise.....	27 54
T. J. Horgan & Co., merchandise.....	2 40
Geo. P. Martin, merchandise.....	1 65
D. A. McEwen & Co., merchandise.....	2 50
F. A. Kilburn, Finance Committee, Midwinter Fair.....	100 00
P. G. Sheehy, attending exhibit Midwinter Fair.....	190 40
Freight and merchandise from Midwinter Fair.....	4 23
J. G. Renfro, drayage of merchandise Midwinter Fair.....	1 25
Paid in premiums.....	567 50
	<hr/>
	\$2,123 96

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 24.

(Embracing part of Santa Cruz County.)

The Twenty-fourth Agricultural District is situated in the extreme northern end of Monterey County and the southern end of Santa Cruz County, which embraces the fertile Pajaro Valley. This valley contains about 50,000 acres of level land, and is remarkable for the fertility of its soil and the great variety of its products.

During the past season the yield of apples has amounted to over 350,000 boxes; prunes, 1,200 tons; apricots, 700 tons; and cherries, 300 tons. A great portion of the apple crop is being moved Eastward at present. The prices for this fruit are not as good this year as last, owing to the big yields of that fruit in the Missouri River country. Prices for all fruits have been very low this year, and as a result many orchardists and buyers have organized drying companies and have dried their own fruit. They claim to have realized better prices for the dried than for their green fruit. In the future, in case the prices for green fruit are not satisfactory, the orchardists can always fall back on these coöperative driers.

In the valley there are about 1,000 acres devoted to the cultivation of the strawberry and blackberry, and from this section San Francisco and other cities receive the most of their supply of this luscious fruit. During the busy part of the berry season, an average of four carloads leave the Watsonville depots every day for the city and other markets. During the past season the experiment of shipping berries in refrigerator cars to long-distance points was tried, but for some unexplainable reason was not a success. It is to be hoped that during the coming season the cold storage and refrigerator car shipping experiments will be tried again and that they both may be successful.

The great railroad strike affected the berry and perishable fruit shippers to the extent of many thousands of dollars. The strike came on at the busiest part of the season. Shipments were made daily by steamer to San Francisco, but that market was soon glutted, for the

reason that there were no means of distributing the fruits to other points. Again, in loading the fruits, particularly berries, onto the steamers, the boxes or crates were handled in such a manner as to damage the fruit and make it reach the market in bad condition.

About five years ago Claus Spreckels located his first beet-sugar factory in Watsonville, and since that time the factory has been increased in size each season, and is at the present time the largest beet-sugar factory on the continent, and must, with its narrow-gauge railroad line, represent an investment of nearly \$2,000,000. In November and December of each year farmers sign contracts to plant and raise beets for the following season's "run" at the factory. It requires good land to raise beets. This year about 12,000 acres were planted to beets in the Salinas and Pajaro Valleys. Five dollars per ton was the contract price, with a proviso that in case the bounty was taken off of sugar, the price would only be \$4 50 per ton. The bounty was taken off, and as a result the beet farmer has received the latter price for his beets. The factory was greatly increased in size the past season, and opened up its present campaign on beets on September 1st of this year. The "run" will not be over until at least February 1, 1895. About 90,000 tons of beets have been crushed up to December 15th, from which 9,000 tons of sugar have been manufactured. It is estimated that there are yet 30,000 tons of beets afield in the Salinas and Pajaro Valleys.

The heavy rains have greatly interfered with the harvesting of the beet crop this season, and, as a result, the factory has been compelled to close down twice during the month of December. The rains also decrease the sugar-producing qualities of the beets and increase the expense of harvesting. The percentage of sugar in the beets has decreased almost one half since November 1st, and as a result the factory has been losing money ever since.

The "run" made by the Watsonville sugar factory this season will be the biggest ever made by any factory in the world, and will no doubt remain the biggest record for many years to come, as the managers have no desire to handle such a big tonnage next year. Next season they desire about 80,000 tons, for which they will pay \$4 per ton. No doubt the factory management will have to raise their own beets at this price, on their leased land in the Salinas Valley. The factory can not pay any more, owing to the removal of the bounty formerly given by the Government, and the Pajaro Valley farmer says there is no money in beets at that price. Probably there will not be 1,000 acres planted to beets in this valley the coming season.

The factory spends for fuel each season about \$30,000, said fuel being purchased from the people who are clearing their foothill lands for orchard purposes. An immense amount of lime rock is also used in the manufacture of the sugar. During the "run" at the factory about 200 men are employed. After the "run" is finished, about 60 men are constantly employed in cleaning and repairing machinery and making other necessary improvements. The sugar is manufactured here into a crude state, and sent to San Francisco for refining. The pulp, or the refuse of the beet, is used for fattening cattle for market. A certain amount of straw and bran is mixed with the pulp, and it is then chopped up into a fine feed. Two large cattle-fattening yards are located near the factory. The sugar factory and its subsidiary organizations pay cash for everything they purchase. The average yield of beets is



about 15 tons per acre, and the cost of harvesting the same is about \$40 per acre, which item includes rent of land, hauling, wages, and all expenses connected therewith.

The hop yield of this valley the past season amounted to about 500 tons. Prices for hops have been low, and there has been a loss on the crop this year. White and Spanish pickers are employed by our hop-growers, and they received 95 cents per hundred pounds the past season for such work.

The average winter rainfall in the Pajaro Valley is about 15 inches. The average temperature is about 65°.

A large brown paper and strawboard mill is located in the Pajaro Valley, about 6 miles from Watsonville. This mill buys up most all the straw of the valley, and pays on the ground \$1 per acre for the same.

This agricultural district contains a population of about 8,000 people. The principal city is Watsonville, located in the center of the Pajaro Valley. The city limits are a mile square, containing a population of 3,500 people. The sugar factory is partially located within the city limits, and all the trade of the valley comes to Watsonville.

Owing to a war between rival lumber companies the past year, building operations have been very active, and as a result many tracts have been cut up into building lots and cosy homes erected thereon. On December 12th the companies again pooled their issues, and the price of each grade of lumber has been increased \$4 per thousand feet. This will no doubt put somewhat of a damper on building operations.

The Pajaro Valley and the City of Watsonville are well supplied with churches and school houses.

Foothill lands range in price from \$25 to \$100 per acre, and bottom lands from \$100 to \$300 per acre, all according to locality.

Large farms do not predominate in the Pajaro Valley, and small farms are the rule.

The Southern Pacific Company has two depots in the valley—one on each side of the Pajaro River, and just one mile apart. Each day two passenger trains leave for and arrive from San Francisco. The fare to the city is \$2 80. The freight rate to the metropolis is \$3 per ton.

The Pajaro Valley Narrow Gauge Railroad runs from the sugar factory to Salinas—a distance of 23 miles. It connects at Moss Landing—8 miles distant from the factory—with the freight steamers of the Pacific Coast Steamship Company.

THOS. F. MURRAY,  
Secretary.

## REPORT

FROM THE

## TWENTY-FIFTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Napa,

FOR THE YEAR 1894.

**Officers.**—L. L. James, President ; Theo. A. Bell, Secretary ; John Even, Treasurer.**Directors.**—L. L. James, Napa ; John Even, Napa ; Z. W. Garfield, Napa ; Chas. Scott, Napa ; N. Coombs, Napa ; John McCord, Napa ; C. L. La Rue, Yountville ; H. W. Crabb, Oakville ; F. W. Loeber, St. Helena.

NAPA, November 19, 1894.

*To the honorable the State Board of Agriculture :*

GENTLEMEN : The Directors of the Twenty-fifth District Agricultural Association submit this, their report of said association, for the year ending this date :

RECEIPTS.		
From tickets at Pavilion.....	\$101 00	
From tickets at Park.....	19 00	
From State appropriation.....	2,500 00	
		\$2,620 00
EXPENDITURES.		
Rent of Fair grounds.....	\$700 00	
H. L. Johnston, clerk at Park.....	5 00	
Andy Smith, gatekeeper.....	4 00	
Charles Scott, sundries.....	4 00	
John Dillon, labor.....	4 00	
C. Stapleton, labor.....	3 00	
Rent of Pavilion.....	50 00	
Music, Napa Band.....	117 00	
Electric light.....	20 00	
Napa City Water Co.....	3 00	
M. G. Morse, clerk at Pavilion.....	27 00	
William Shepard, doorkeeper.....	10 00	
L. Cobb, watchman.....	14 00	
John Smith, labor.....	6 00	
J. C. Owen, labor.....	5 00	
J. A. McClelland & Co., cloth for Pavilion.....	1 60	
James & Son, hardware.....	60	
James & Co., lumber.....	15 40	
L. Hoffman, drayage.....	6 00	
L. Smith, labor.....	1 50	
Theodore Bell, Secretary of Association.....	150 00	
H. C. Wood, printing.....	50 75	
Napa Journal, advertising.....	12 00	
Napa Register, advertising.....	10 00	
Lyman King, stationery.....	5 70	
D. L. Haas, stationery.....	1 90	
Breeder and Sportsman, advertising.....	58 75	
Sundry expenses.....	40 00	
Note due Isaac McCoombs.....	700 00	
St. Helena Star, advertising.....	2 00	
Premiums at Pavilion.....	479 25	
Premiums at Park.....	311 00	
		\$2,818 45
Loss.....		\$198 45

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 25.

## (Napa County.)

Napa County may well be termed a county of valleys. In these valleys, the principal of which are Napa, Berryessa, Pope, Chiles, Conn, Capelle, Cherry, Wooden, and Gordon, the rich, fertile soil produces large crops of grain, fruit, and vegetables. On the slopes of the hills, orchards and vineyards abound. During the last five years attention has been turned to a considerable extent from grape-growing to that of fruit-growing. The culture of all kinds of fruit, and the replanting of vineyards with resistant stock, bid fair to soon turn the county back into its old channels of prosperity. While the annual production of wine has been steadily decreasing, the quality has become very much improved, and now finds a ready market. Many gallons of first-class brandy are manufactured each year by different distilleries throughout the county. The shipments of green fruit East, and to other points without the State, are annually increasing, there being some 400 tons sent out of the county in 1894. The greater part of the fruit, however, is dried and canned within the county. This year there were about 2,200 tons dried, and in the neighborhood of 1,000 tons preserved.

The population of Napa County is about 17,000. Napa, the county seat, is a beautiful town of 4,600 inhabitants. Among its natural advantages is its situation at the head of navigation on Napa River, thus giving it means of transportation by both water and rail. With its large agricultural resources, its three tanneries, woolen mill, glove factory, and other large business interests, and its shipping, it can be safely said that Napa is one of the liveliest and most prosperous towns of the State. About one mile east of town is located the Napa Insane Asylum, now containing nearly 1,500 patients (all of which, however, are not contributed by Napa County). To the north, at a distance of three miles from the town, are the renowned Napa Soda Springs. Hundreds of tourists and health-seekers are attracted each year to these bubbling waters.

St. Helena, with its population of 2,500, lies in the arms of one of the choicest agricultural districts of the State. Acres of fruit and grapes cluster around it in the valley, while hills clad in vine and decked with orchards smile down upon it from either side.

At the terminus of the Napa Valley Railroad, in the northern part of the county, 1,500 inhabitants form the town of Calistoga. During the summer months the lively appearance of the streets mark the departure of several daily stages to various points in Lake County. Much freighting is done to and from Calistoga.

Among other towns of the county might be mentioned Yountville, the site of the Veterans' Home; Oakville; Rutherford, in Napa Valley, and Monticello in Berryessa.

Napa County is quite rich in minerals. The Ætna Consolidated is considered the richest quicksilver mine in the world; while the Redington and Napa Consolidated turn out no mean supply.

The county has excellent educational facilities. About \$50,000 is distributed annually among the 58 schools of the county.

THEO. A. BELL,  
Secretary.



## REPORT

FROM THE

## TWENTY-SIXTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Amador and Sacramento,

FOR THE YEAR 1894.

**Officers.**—John Marchant, President; W. A. Bennetts, Secretary; Daniel Stewart, Treasurer.

**Directors.**—T. R. Muir, Ione; E. C. Voorheis, Sutter Creek; O. Plummer, Cosumnes; James Meehan, Jackson; W. C. Sheldon, Cosumnes; B. A. Borden, Lancha Plana; B. Isaacs, Ione; J. Marchant, Ione.

IONE, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Twenty-sixth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.	
By balance on hand .....	\$3 71
By pasturage at Park .....	20 25
By tickets .....	634 50
By race entries .....	517 50
By privileges .....	166 75
By Directors' note .....	1,000 00
By subscriptions for Pavilion .....	236 80
By premiums donated .....	38 35
By State appropriation .....	3,000 00
By balance due on Pavilion subscription .....	130 07
By overdraft .....	30 15
	<u>\$5,778 08</u>
EXPENDITURES.	
For premiums and purses .....	\$2,284 45
For band and orchestra .....	230 00
For miners' drilling contest .....	120 00
For ladies' tournament .....	20 00
For insurance on Pavilion .....	72 50
For printing and advertising .....	339 50
For water, and sprinkling Park and road .....	150 00
For hay and straw .....	104 05
For labor at Park and Pavilion .....	752 55
For A. F. Nichols, blacksmith .....	13 10
For merchandise .....	232 14
For sundry expenses .....	189 79
For Secretary's salary .....	150 00
For Directors' note and interest .....	1,020 60
For interest on mortgage note on Pavilion .....	100 00
	<u>\$5,778 08</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 26.

(Amador and Sacramento Counties.)

## AMADOR COUNTY

In shape much resembles what was known to our foremothers as a "leg-of-mutton sleeve;" and is wedged in among El Dorado, Alpine, Calaveras, San Joaquin, and Sacramento Counties. It is noted for its remarkable diversity of wealth-producing resources, which have already made it prosperous, and seem to justify the belief of its citizens that it is destined to become one of the most important counties of its size in the State. This faith is based on the deep loam lands of its valley, the rich clay soils of its foothills, its immense timber resources, and the untold possibilities of its mineral belt.

*Statistics.*—The area of Amador County is about 650 square miles, or 416,000 acres; unentered Government land, 100,000 acres; lands assessed, 252,717 acres; total valuation of property, \$4,143,312; rate of taxation for State and county, \$1 95; value of county property, \$80,000; county debt, *none*; number of miles of railroad, 27; number of school districts, 43; number of school children between the ages of 5 and 17 years, 2,671; population in 1890, 10,315.

*Topography.*—Beginning at its western boundary where it adjoins Sacramento County, at an altitude of 270 feet above sea-level, a succession of undulating hills follow each other in an eastern direction for 10 miles—surrounding in their course the beautiful little valleys of Ione and Jackson; then the higher foothills stretch away for 20 miles, until they intersect the bluff mountain range which terminates 40 miles farther east at the Alpine County line, at an altitude of 5,000 feet above sea-level. This topography gives the county a variety of soils, rarely, if ever, equaled within a similar area. The deep loam lands in Ione and Jackson Valleys, as well as along the Mokelumne River, are almost without a parallel in their wonderful yield of corn, potatoes, alfalfa, hops, and fruit; while the red clay soils of the foothills are rich in plant food, as the abundant crops of wheat, barley, hay, and oats attest. The eastern portion of the county is mountainous, covered with dense forests of pine, fir, spruce, and oak, and is quite rugged and broken, cut up by deep cañons and ravines. The remainder of the county belongs to the foothills, with gradually diminishing elevation as it approaches the valley. This section contains numerous small valleys, principal among which are Ione, Jackson, and Buckeye.

*Soils.*—The soil on the Mokelumne River and in Ione and Jackson Valleys is an alluvial deposit, deep and fertile, and remarkably easy of cultivation. Along the foothills a red gravelly-clay soil prevails, and seems especially adapted to the growing of fruit trees and vines.

*Agriculture.*—Owing to the topography of the county, the farms are necessarily small, and the production of hay, grain, alfalfa, and vegetables is limited to the demands of home consumption. Considerable quantities of corn and alfalfa, however, are converted into beef and pork and shipped on foot to the city markets. Dairying is carried on to a limited extent, but does not meet home requirements. The poultry and egg business—though too often viewed in a minor light—is a rapidly growing industry, especially the raising of turkeys. The cool, shady

hills of Amador County are well adapted to this industry, and since there is no limit to the demand, it is gradually receiving more attention; in fact, it is a source from which a large percentage of the county taxes is derived, and many a small farm has been saved from the tax-gatherer by the prudent housewife who carefully watched the poultry yard.

Two flouring mills manufacture the wheat of the county into flour. Almost every variety of vegetable is cultivated in every nook and corner of the county below the snow line, and furnished fresh and green at every door every week in the year. Among other possibilities in the line of agriculture in Amador County are the items of hemp, flax, and tobacco. These products of the soil are annually exhibited at our District Fairs, and appear to be of excellent quality. Without exaggeration the agricultural possibilities of Amador County—in view of its varied soils and temperature of climate—seem to extend to the growing of every plant natural to the North Temperate Zone.

*Horticulture.*—This county is making considerable progress in fruit-raising. Along the Mokelumne River and in Ione and Jackson Valleys are found the principal fruit sections. In these sections the peach, pear, plum, prune, cherry, apricot, nectarine, apple, and the small berries are produced in considerable quantities—albeit without irrigation. The orange, olive, fig, and a great variety of nuts do well in these localities. The grape finds a more congenial soil and better results are obtained on the gravelly clays of the foothills. The apple, while it grows well in all the valleys, reaches a finer flavor and a greater keeping quality in the higher foothills. The chestnut along the snow line attains a greater degree of excellence than in its wild state at the East.

*Irrigation.*—There are 108 miles of water-ditch and flume in the county. These were originally constructed for mining purposes, but now, with the exception of a few main trunk canals, have become partial wrecks. These old ditches traverse every hill and ravine in the foothill regions of the county, and could readily and cheaply be reopened and utilized for irrigation, though very little irrigating is necessary, or rather but little is resorted to, notwithstanding actual demonstration has amply proven its beneficial results.

*Timber.*—There are still large quantities of pine, fir, spruce, and tamarack timber in the mountains, though it is being rapidly diminished by the mines.

*Mining.*—The great quartz belt, better known as the Mother Lode, with its present magnificent paying mines and the untold possibilities of its undiscovered deposits, crosses the county. Mining is not only a leading feature in the resources of this county, but is an important factor in the financial status of the State. Amador's annual output of gold is only equaled by that of one other county in the State. Besides gold, copper and coal are found and mined in considerable quantities. Marble, granite, slate, sandstone, and other building-stones of fair excellence are found. Every grade of potter's clay and glass sand exists in vast deposits near Carbondale, on the Amador Branch Railroad.

*Climate.*—The temperature varies with the altitude of the county, but nowhere below the snow line does the mercury, as a rule, rise above 100° above zero in summer, or fall below 22° in winter. The weather is neither uncomfortably warm in summer nor disagreeably cold in winter. However warm the days may be in summer, the nights are always cool and refreshing. Frosts occasionally occur in the foothills



and valleys in the fall and winter months, and are far more beneficial in their health-giving results than destructive to the fruit and vegetable crops. The deep snows on the mountains make habitation impossible. Maximum temperature at Ione, 106°, in August; minimum at Ione, 26°, in February; average, 80°. Average rainfall at Ione, 16.20 inches. Fogs only prevail in the valleys at rare intervals, and the county is fortunately free from the damaging north winds that obtain in many other localities of the State. The early rains bring forward the grass on the warm hills in sufficient quantities to support stock cattle and sheep in November.

*Experiment Station.*—The Foothill Experiment Station, an offshoot of the State University, is located five miles from Jackson, the county seat, and contains thirty-six acres lying adjacent to the Amador Canal. It is devoted to testing the adaptation of the soil of the foothills to the various fruit trees, grains, nuts, grasses, etc., with and without irrigation.

*Preston School of Industry.*—This is a State institution devoted to reformatory measures for the betterment of the wayward boys of the State. It is pleasantly located on a commanding site near Ione. The building is a massive three-story structure of brick and red sandstone, furnished with all the requirements of a comfortable home and the conveniences of the modern school-house. A pleasant feature of this stately edifice is the commanding view it affords of the picturesque scenery that surrounds it. From its great dome the sightseer can enjoy a magnificent view, reaching far away to the dome of the State Capitol, and to the dimly-blue Coast Range in the west, or to grim old Diablo, with its avalanches of white fog rolling down its sides, or the dark-green chaparral stretching away over the foothills—walled eastward by the snow-crowned barriers of the Sierra, or the low chemical that veils the rocks and crags to the north. This institution was first opened for the reception of boys July 1, 1894, and has received up to date (December 1, 1894) 84 boys, ranging in ages from 8 to 17 years.

*Suggestion.*—The alarming destruction of wood fuel along the foothills of the county by annual forest fires, as well as the rapid denudement of the mountains of their wealth of lumber by the lumbermen, make it apparent that in a very few years the people of this district, as well as of other portions of the State, will awaken to a realizing sense that they have neglected one of the most important duties of their lives, viz.: the protection of the "tree" of to-day, or the planting of a new one for to-morrow. There is a world of sentiment, if not sense, in the phrase "Woodman, spare that tree." Apropos to this thought, there is in this district a large area of country lying between Ione Valley and the Cosumnes River that is without bush or tree, and fated with a soil capable only of producing an inferior grass for nomadic flocks for two or three months in the year. Why not plant this territory to eucalyptus and ailanthus trees? Both these families of trees thrive without irrigation in the most unfavorable soils. As I now write, numerous ailanthus trees, seven years old and twenty feet high, stand before me in the fence corners of hard-beaten stock corrals. This tree, like the eucalyptus, is a hard, close-grained wood, having an immense tap-root that is led downward by the receding moisture to a great depth. One saving feature of this tree from molestation by stock is the slightly unsavory fragrance of its foliage. One of man's chief financial pur-

poses in life (after a competence) is the leaving of a suitable heritage to those who are to follow him. What surer investment for capital, or better heritage, could a father leave to his son than a young forest of hardwood within easy reach of Sacramento City? The treeless territory above mentioned, in its otherwise valueless condition, seems to invite the idle capital of the State. Indeed, it seems to be waiting the movement of some far-seeing operator who will some day perceive its merit, and open up for the benefit of the coming generation its Aladdin-like wealth.

In conclusion, it is but fair to observe that the small farms, and the great diversity of other small interests in Amador County, have given almost constant employment to home laborers; unlike large holdings, they do not attract the pestiferous tramp, and the vagabond finds no resting place with the small farmer, miner, or dairyman. While other localities have felt the torturing effects of hard times, Amador County has not yet sent up its cry for bread. Hence, we submit, that with small farms and small holdings dotted over the county, with their diverse resources, warrants the prediction that Amador County is destined to become noted for the stability of its business enterprises and the general prosperity and contentment of its citizens.

#### SACRAMENTO COUNTY.

By GEORGE B. KATZENSTEIN, of Sacramento City.

Sacramento County, with its 968 square miles of area, as large as the State of Rhode Island, is an empire of no mean order. A failure of crops was never known. Its industries, products, and resources are more varied than those of any of its sister counties. More than one tenth of its entire area is devoted to the culture of vegetables and market truck; 30,000 acres are set to fruit trees and vines; 10,000 acres are devoted to raising alfalfa. Within the county is located the largest thoroughbred breeding farm in the world. All roadways and bridges are free. It has a larger proportion of clear (sunny) days than any other known locality. Sunstroke, snow, blizzard, cyclone, sudden climatic changes are here unknown; *per contra*, it is the natural home of all deciduous and citrus fruits. Professor Berckman, President of the American Pomological Society, at its meeting which was held in Sacramento in January, 1895, remarked, "that nowhere else had he ever seen the cherry and the orange—antipodal fruits—perfectly growing and maturing in the same piece of soil." With the Sacramento, American, and Cosumnes Rivers within or along its borders, the county has the greatest facilities for irrigation, yet its products grown upon non-irrigated ground far exceed those produced with irrigation.

*Climatic.*—"Among the elements which constitute a perfect winter climate, are small variability of temperature, freedom from excessive phases of either absolute or relative humidity, genial, gentle winds, frequent but not heavy showers of rain, and a large proportion of sunshine. In short, a moderately temperate, fairly dry, and sunny climate is the desideratum, the difficulty of finding which in perfection has been termed an idyllic quest." So wrote Lieut. A. W. Greely, Chief Officer of the U. S. Signal Service, and commander of the famous Greely expedition, in *Scribner's Magazine*, upon "Winter Resorts," and in con-

nection with which a series of charts was presented, showing the humidity, daily changes of temperature, and probability of rain. Comparisons are made of Sacramento with noted winter resorts of the world. Sacramento is shown to lead for low absolute humidity. As to variability of temperature Sacramento ranks slightly above Nice, and on a range with San Diego and Yuma, and far below ten other stations in the United States. He asserts that Sacramento is favored with as many rainless days as northern Florida, and is authority for the conclusion that "Sacramento possesses the ideal climate for a winter resort."

*Fruit Culture.*—It is conceded that Sacramento is the heart and center of the deciduous fruit culture of the State. A fifty-mile circle drawn about Sacramento City, with it as the hub or center, shows at a glance the area within which is produced and shipped more than 75 per cent of the green fruits which find their way to Eastern markets. This has been frequently demonstrated in figures showing the tonnage and carloads of fruits shipped during preceding seasons, and the present will be no exception.

In addition to the leading position occupied in the production and marketing of deciduous and green fruits, the locality is fast acquiring an enviable record in the production of citrus fruits. For forty years orange trees have been grown in the gardens and dooryards. Latterly, within the past decade, they have been planted in groves for market and profit. In one district, Orange Vale, there can be now seen, successfully growing and producing, fully three hundred acres of the finest quality of budded orange and lemon trees, including all the leading varieties. The Orange Vale Colonization Company picked and marketed ripe oranges in the early part of December, 1894, shipping several carloads to the East and reaching the holiday market. Oranges from this section, while not suffering in comparison with the finest qualities raised elsewhere, are thus shown to be fully six weeks earlier in maturing than those of the famous southland.

*Hop-Growing.*—The most extensive and probably the most famous hop-growing section of the United States, if not the world, will be found bordering the banks of the American River, in Sacramento County. More than thirty years ago the pioneers of this industry began their experiments here, perfecting the work from time to time, and increasing the area, until now fully two thousand acres devoted to hop culture alone are under the highest state of cultivation, with the most approved appliance of trellises—on the trolley, or overhead wire plan—kilns or drying-houses, etc.

The successful cultivation of the hopvine requires the most fertile and prolific soil. Once planted, the vines, under proper conditions, continue to produce annually recurring crops without replanting. An acre of hopvines, in bearing, in this section will produce a ton of hops to the acre. In some instances, 3,000 pounds have been gathered from one acre of vines.

*Colonization.*—In common with other sections of California, the development and growth of Sacramento have been materially retarded by the individual holding of vast acreage properties, tens of thousands of acres being thus withheld from occupancy and settlement. In one instance 44,600 acres are thus held in one body, sale or subdivision being utterly refused, and the vast territory named remaining unculti-



vated. These conditions are, however, rapidly changing, and the onward march of progress will soon force a segregation of these acre aggregations.

The first attempt at colonization in Central or Northern California was made a few years ago under the patronage of some of Sacramento's best business men. Seven years ago, three thousand acres, eighteen miles northeast of Sacramento City, were acquired, subdivided into ten-acre tracts, improved, and sold to intending settlers. The Orange Vale Colony thus patriotically inaugurated has demonstrated the possibilities along these lines, as no more inviting, thrifty, or successful settlement can be shown, dotted over as it is with beautiful homes and improvements.

Encouraged by the success of this the parent colony, a second, to be known as the Fair Oaks Colony, has recently been laid out by Chicago capitalists, who will undertake to dispose of and settle up about seven thousand acres of what is known as the San Juan Grant, which lies immediately south of Orange Vale.

*Suburban Transportation.*—Facility of transportation and travel is one of the leading factors of early and rapid suburban settlement. With the advent of the "new power," which is the first practical use of water power in this State, and which it remained for Sacramento to demonstrate and utilize, will come the possibilities of rapid transit by car lines all over and through the county. The conveniences and facilities thus afforded will have a tendency to rapidly fill up the outlying territory and largely augment its development.

The first arrival of the electric current, which is now (July, 1895) successfully propelling the street car system of the Capital City, was the signal for the organization of a new electric railroad, which, connecting with the city system in Sacramento, will run out toward and across what is known as the Haggin Grant, the San Juan Grant, through and into Orange Vale, opening and developing one of the richest sections of the county. This is the precursor of similar enterprises which are almost sure to follow along the river courses, ultimately covering the whole county with local roads of this description.

*The Folsom Power.*—The most important event in the history of Sacramento County is the recent completion, after a quarter of a century's patient and continuous toil, of what is at present writing the most complete and extensive power-plant extant. With a restraining dam of solid granite masonry 89 feet high, 24 feet wide at the top, 87 feet wide at the bottom, and a length of 650 feet, containing 48,500 cubic yards of masonry, thrust of 1,911 tons, and stability of 7,979 tons, feeding a canal 40 feet wide at the bottom and 50 feet wide at the top, with a flow of water 8 feet deep in the canal, supplying a run of 85,000 cubic feet per minute, its capacity is practically unlimited. Ten thousand horse-power can be transmitted to Sacramento City to turn the wheels of factory and mechanical appliances.

The present power-plant at Folsom consists of four double horizontal turbine waterwheels, each operating dynamos of 1,200 horse-power each. The electric energy generated by this immense plant has already been successfully transmitted to the City of Sacramento, fully demonstrating the entire success and practicability of the work. The transmission is by a magnificent copper wire line from Folsom to Sacramento, a distance of twenty-two miles. The four turbine wheels and generators already in place will deliver at least 1,000 horse-power each, net, in the

City of Sacramento. That this new force will revolutionize the supply of power, as well as lighting and heating, goes without saying.

With the natural advantages possessed by Sacramento City and County as a commercial, manufacturing, and distributing center; with open waterways affording the competitive benefits of river transportation, unless all auguries shall fail, Sacramento is destined to become the greatest manufacturing center of the coast.

W. A. BENNETTS,  
Secretary.

## REPORT

FROM THE

## TWENTY-SEVENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Shasta,

FOR THE YEAR 1894.

**Officers.**—H. Clineschmidt, President; A. M. Irwin, Secretary; C. C. Bush, Treasurer.  
**Directors.**—H. Clineschmidt, Redding; M. T. Kite, Redding; J. R. Holt, Redding; E. P. White, Redding; H. F. Ross, Millville; W. W. Fish, Stillwater; T. W. H. Shanahan, Anderson; C. H. Behrens, Shasta.

REDDING, October 20, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Twenty-seventh District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
By sale of tickets .....	\$320 40	
By sale of privilege .....	6 50	
By State appropriation .....	2,250 00	
		<u>\$2,576 90</u>
EXPENDITURES.		
For rent of Pavilion .....	\$100 00	
For Manager of Pavilion .....	50 00	
For labor at Pavilion .....	181 35	
For light and water .....	30 00	
For music at Pavilion .....	100 00	
For printing and advertising .....	85 00	
For merchandise, etc. ....	48 50	
For lumber .....	11 80	
For ice at Pavilion .....	9 10	
For hay and grain for stock .....	9 90	
For postage, expressage, and freight .....	21 75	
For sundry expenses .....	76 00	
For Directors' note .....	17 50	
For salary of Secretary and assistant .....	125 00	
For premiums awarded .....	1,711 00	
		<u>\$2,576 90</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 27.

(Shasta County.)

Shasta County is situated at the head of the Sacramento Valley. Its greatest length from east to west is 90 miles, and from north to south, 60 miles. The mountains of the Sierra Nevada and Coast Range cover a large portion of the county on all sides, except the south. They



are rugged and lofty. In the southern portion of the county is a foothill region, half-circular in shape, forming the northern end of the Sacramento Valley proper. The central and southern portions of this foothill region consist of table-lands, varying in altitude from 500 to 700 feet above the sea-level, cut by many streams of water, forming narrow valleys. The soil of these valleys is alluvial or sedimentary, containing a good deal of disintegrated rock or gravel. Color of soil is light red or reddish brown, rich and productive. In these valleys the raisin and best varieties of table grapes, the peach, prune, fig, plum, and apricot grow very rapidly, the land producing abundantly large and luscious grapes and fruits. The table-lands between valleys are mostly sandy-clay loam, granitic and clay soils; timbered—scattering oaks and pine—and more or less covered on the surface with gravel and boulders. These table-lands, or mesas, are peculiarly suited to the growth and perfection of such fruits as pears, almonds, olives, figs, nectarines, quinces, and apples, and for fine wine grapes.

The population of the county is about 13,000. Schools and churches are ample for the accommodation of all who desire to attend.

Redding is the county seat, and is situated at the head of the Sacramento Valley, on the Sacramento River. There are a number of churches, and two school houses, and a new \$10,000 school house will be built during 1895.

Our chief industries are agriculture, fruit-growing, stock-raising, dairying, mining, quarrying, and lumbering.

During the year 1894, 46 carloads of green fruit, 10 carloads of dried fruit, 42 carloads of cattle, 31 carloads of shakes, 15 carloads of hay, 5 carloads of lumber, and 3 carloads of wood were shipped from the town of Anderson, 12 miles south of Redding. Some of the principal shippers were the Alexander Ranch, in Happy Valley, about 8 miles west of Anderson; the Ludwig Fruit Company, situated about  $1\frac{1}{2}$  miles southeast of Anderson; the Riverside Farm, about  $1\frac{1}{2}$  miles southeast of Anderson; the Shade Farm, about 2 miles southeast of Anderson; L. C. Frisbie, whose orchard is situated about 2 miles southeast of Anderson; the River Bank Farm, about 1 mile east of Anderson; the Dammon Orchard, about  $2\frac{1}{2}$  miles north of Anderson; the Shasta County Fruit Company, situated about 1 mile south of Anderson. The principal kinds of fruits shipped were as follows: Peaches, plums, blackberries, pears, apples, apricots, prunes, nectarines, and grapes. Fruit was shipped to Portland, Or., Tacoma, Wash., Chicago, Ill., New York City, Cleveland, Ohio, and Louisville, Ky.

Dan Robinson, whose orchard is situated about 1 mile east of Anderson, sold his crop of prunes on the trees for \$2,000. H. M. Alexander, who resides about 1 mile northeast of Anderson, sold his crop of prunes on 30 acres on the trees for \$1,600; this was the first bearing year for most of his trees. L. C. Frisbie sold his crop of pears on the trees for 2 cents per pound. Mr. Smith, who is located about  $\frac{1}{4}$  mile northeast of Anderson, sold his crop of prunes on 8 acres on the trees. The Fish Bros., whose farm is on Stillwater Creek, about 12 miles northeast of Redding, raised some very fine fruit and also made some very fine wine this season.

Hill & Sons had on exhibition some dried fruit that could not be excelled. They are located on the east side of the Sacramento River, about 8 miles from Redding.

The mineral resources of Shasta County are wonderful, the entire northern portion of the county being almost entirely mineral land. Gold, silver, copper, and lead are found in veins of quartz. Gold-bearing veins are found throughout the mountainous portion of the county. Placer mining is being carried on to some extent.

Silver is found on the South Fork of Clear Creek and on Iron Mountain. This belt of silver can be traced a distance of fully 60 miles northeasterly to Round Mountain, where it is found carrying lead. The formation of the veins is usually slate on one side and porphyry on the other.

Iron ore suitable for the manufacture of pig iron is found in extensive deposits near the junction of the Pitt and Sacramento Rivers. Coal, in abundance and of excellent quality, is found near Round Mountain. Petroleum and salt are found within a few miles of Redding. Slate suitable for roofing, also a good building-stone, are obtainable in many parts of the county. A San Francisco company is opening a valuable quarry of building-stone about six miles southwest of Redding.

Quartz mining in this county is, in a measure, in its infancy, and the development of resources in this direction but little known. However, in the past ten years, by rapid transportation by railway, by reducing expenditures for labor and supplies, by improved mining and milling, and by systematic and economical management, much development work has been done with most encouraging results.

The northern and eastern sections of the county are very heavily timbered in a good many portions. A number of sawmills are cutting lumber, mostly sugar and yellow pine. The Shasta Lumber Company, whose mill is about 45 miles east of Redding, cut over 5,000,000 feet of lumber in four months. They expect to cut during the season of 1895 about 15,000,000 feet of lumber. Some of the finest sugar pine lumber in the State is found in this county.

A. M. IRWIN,  
Secretary.

## REPORT

FROM THE

## TWENTY-NINTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Tuolumne,

FOR THE YEAR 1894.

**Officers.**—John H. Shine, President; W. G. Jones, Secretary; Thomas A. Hender, Treasurer.

**Directors.**—J. W. Major, Sonora; J. A. Goodwin, Chinese Camp; Charles R. Parsons, Sonora; Thomas Birney, Columbia; William Sharwood, Soulsbyville; D. W. Berger, Sonora; J. H. Shine, Sonora; C. S. Fitch, Sonora.

SONORA, October 25, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Twenty-ninth District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

<i>Spring Races, May 23, 24, 25, and 26, 1894.</i>		
Entrance fees .....	\$758 50	
Gate receipts .....	589 50	
Pool privilege .....	120 00	
Saloon privilege .....	426 00	
Candy, nuts, etc. ....	16 25	
Sale of feed .....	163 15	
		\$2,073 40
<i>Fall Races and Fair.</i>		
Percentage on premiums .....	\$169 25	
Sale of Pavilion tickets ..	265 85	
Sale of Race Track tickets ..	851 25	
Entrance fees to races .....	395 00	
Saloon privilege .....	400 00	
Pool privilege .....	121 00	
Candy, etc., privilege .....	16 50	
Sale of feed .....	48 50	
State appropriation .....	2,000 00	
		4,267 35
Total receipts .....		\$6,340 75
Total indebtedness .....		2,963 07
		<u>\$9,303 82</u>

## EXPENDITURES.

<i>Spring Races May 23, 24, 25, and 26, 1894.</i>		
Employés at track .....	\$169 50	
Feed .....	195 89	
Drayage .....	17 00	
Work on track .....	56 25	
Supplies .....	55 85	
Repairs .....	12 50	



Lumber .....	\$14 50	
Teams for conveying band .....	40 00	
Labor on ditches .....	7 50	
Starter and assistant .....	20 00	
Printing .....	97 30	
Addition to bar .....	50 00	
Purses .....	1,446 50	
		<hr/>
<i>Fall Races and Fair.</i>		\$2,182 79
Labor at Park and Pavilion .....	\$333 00	
Supplies .....	32 80	
Surveying .....	14 00	
Lumber .....	98 53	
Hall rent .....	58 00	
Drayage .....	15 00	
Postage and expressage .....	13 00	
Salary of Secretary .....	300 00	
Salary of Assistant Secretary .....	60 00	
Treasurer .....	50 00	
Expenses of Directors .....	80 00	
Band (brass and string) .....	410 00	
Printing .....	334 45	
Feed .....	202 85	
Purses .....	1,320 00	
Services of driver .....	12 50	
Purse for baseball game .....	100 00	
Notes due .....	2,064 25	
Interest .....	335 00	
Unsecured debts .....	1,287 60	
		<hr/>
		7,121 03
Total expenditures .....		<hr/>
		\$9,303 82

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 29.

## (Tuolumne County.)

There is to-day no section of the State that offers more flattering inducements for the investment of capital than that embraced within the boundary lines of Tuolumne County. Its resources are many, but the chief industry at this writing is mining, and its extent is practically unlimited. The Mother Lode traverses the county from southeast to northwest, and upon it some of the richest mines in California are being worked. It is a fact well known to mining men, that this great ore body, of unknown depth, has never failed to reward the investment of capital wherever and whenever it has been tapped at any considerable depth. Here and there throughout the county, upon this great and wonderful formation of gold-bearing quartz, are located numerous mines, some of them of great depth, others just opened up, that are running day and night, paying big dividends that truthfully and forcibly illustrate the vastness of its wealth and the golden treasure yet buried beneath its great walls of slate and stone, and awaiting only the hand of capital to be lifted to the light of day, and sent out among the various industries of the land upon a mission of good. North and south of this great vein of quartz, and running parallel thereto, are numerous rich veins traversing the county, and upon which are now being worked many mines that are steadily and surely enriching their owners. During the year 1894, Tuolumne County has, indeed, prospered in her mining resources. The Ham & Birney, Young America, Mammoth, App, Golden Rule, Keltz, Joe Hooker, Seminole, and many others located in various sections of the county that were opened up and success-

fully worked during the last year, with the many good ones now in course of development, attest to the mineral wealth of the county, and give abundant assurance that the opportunities for the profitable investment of capital are great in this district.

But while the mining interests are just now paramount to all others, it must not be considered that Tuolumne is barren of other great industries in which the future prospects and riches of the county will be greatly promoted. It is here where the best of fruits, perfect in shape and flavor, can be and are yearly produced. The apple, plum, peach, pear, orange, lemon, grapes of every variety, nuts of many kinds, and berries, large and luscious, untouched by the destroying bug or withering blight, attain a size and growth and flavor that cannot be surpassed by the productions of any locality on the continent. For the want of proper shipping advantages only is Tuolumne kept back in this line of development and, comparatively speaking, unknown as a fruit-producing county in the markets of the country. With rapid and safe transportation, she would undoubtedly rank with the first counties of the State in fruit production. The growing of cereals is not extensively engaged in. Numerous rich and beautiful valleys and gracefully rolling hills offer every advantage for the successful growing of grain of every variety, but the low rates of prices and the inability to reach market at reasonable cost have brought that industry to the production of only enough to supply home consumption. Fine farms with excellent buildings and improvements dot the county throughout its length and breadth, but the prevailing condition of things has persuaded their owners that the sowing of a large acreage and the reaping and storing of large quantities of grain are unwarranted, and they choose instead to pasture their lands, and as a result the county is becoming largely productive of excellent mutton and beef, of which large shipments are made annually to the markets of the State.

Apart from Tuolumne's mining and agricultural advantages, is her large deposits, or rather mountains, of marble, beyond a doubt the finest marble in the State. It is here that the largest and most perfect pillars or slabs down to the smallest tiles can be secured in many colors or the purest white. Mountains upon mountains of marble surround the extensive works recently erected near Columbia, and the rock quarried from this county, now adorning numerous public and private buildings in this State, notably the Palace Hotel, San Francisco, and the Federal buildings at San José, fully demonstrate the superior quality of the stone. That composing the sidewalk in front of the Palace Hotel in San Francisco, put in place years ago, and upon which millions upon millions of feet have trodden, remains as perfect in shape and as smooth in surface as upon the day it was laid for the people of all countries to tread upon. Granite and slate piled mountains high, only awaiting the advent of the means of rapid transportation and capital, to become a source of valuable production, are found here, while immense forests of redwood, fir, and sugar pine line the higher mountain ranges, awaiting the day when the man of means shall discover in them great opportunities and riches, and shall hasten to convert them into lumber and send them into the busy centers of the world.

The population of the county has increased about 1,500 in the past two years, giving us at this time about 8,500 population. The new arrivals are disseminated throughout the county, and as a rule are

industrious and contented and are a valuable acquisition to the county. The very low prices at which all real estate is quoted have enabled many of them to purchase property and make improvements thereon, insuring their becoming permanent citizens.

The climate, which is of all things most important to many, might, with all truthfulness, be called blessed. No epidemics can gain a foothold here, and miasmatic fevers are unknown. With an atmosphere that seldom falls as low as  $20^{\circ}$  (excepting near the summit of the higher Sierra Nevada Mountains) or rises above  $90^{\circ}$ , free from contagious diseases and "hobo" disturbances, the people live happily and contented, every ready to welcome the deserving stranger and extend a helping hand.

The prospects for rapid advancement in the various industries during 1895 are certainly flattering. With the increasing and successful working of the many mines of the county, the upbuilding of other industries that now lie idle will surely follow, and in a few years the population of the county will have more than doubled, and Tuolumne will have become one of the most prosperous counties in the State.

W. G. JONES.  
Secretary.



## REPORT

FROM THE

## THIRTIETH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Tehama,

FOR THE YEAR 1894.

**Officers.**—R. H. Blossom, President; M. R. Hook, Secretary; W. B. Cahoon, Treasurer.  
**Directors.**—G. G. Kimball, Red Bluff; E. C. Fortier, Red Bluff; John Gregg, Red Bluff; Paul Stoll, Red Bluff; Henry Wietfeldt, Red Bluff; R. H. Blossom, Red Bluff; D. S. Cone, Red Bluff; C. B. Ashurst, Kirkwood

RED BLUFF, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirtieth District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Balance from 1893.....	\$842 16
Rent of Park.....	67 87
Subscription to purses.....	977 50
Subscription from county.....	500 00
Privileges at Park.....	272 25
Privileges at Pavilion.....	21 75
Entrance fees.....	1,248 60
Gate receipts.....	180 50
Season tickets.....	210 00
Pavilion tickets.....	141 75
Sundries (rebate dues N. T. A.).....	21 00
Due from State.....	2,000 00
Overdraft.....	23 43
	<u>\$6,506 81</u>

## EXPENDITURES.

For interest on overdraft.....	\$45 26
For interest on bills payable.....	330 00
For amount paid on debt of Association.....	800 00
For dues to National Trotting Association.....	25 15
For rent of office.....	45 00
For rent of Pavilion.....	25 00
For insurance.....	30 00
For sundries.....	222 86
For labor and material at Park.....	714 00
For labor and material at Pavilion.....	177 59
For premiums at Park.....	119 00
For premiums at Pavilion.....	597 25
For purses.....	2,610 00
For printing and advertising.....	144 20
For music at Park.....	75 00
For music and lights at Pavilion.....	121 50
For salaries.....	425 00
	<u>\$6,506 81</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 30.

(Tehama County.)

RED BLUFF, January 31, 1895.

EDWIN F. SMITH, Esq., *Secretary State Board of Agriculture, Sacramento, California:*

DEAR SIR: I herewith hand you a descriptive review of the Thirtieth District Agricultural Association, composed of Tehama County.

## LOCATION, BOUNDARY, AND EARLY SETTLEMENT.

Tehama County is situated on both sides of the Sacramento Valley, and reaches from the summit of the Sierra Nevada Mountains on the east to the summit of the Coast Range on the west, with the Sacramento River running through the center from north to south. It is bounded by Shasta on the north, Plumas and Butte on the east, Butte and Glenn on the south, and by Mendocino and Trinity on the west. It has a breadth of 38 miles from north to south, and a length of 78 miles from east to west, giving it an area of nearly 2,000,000 acres. It is 200 miles north of San Francisco, and 125 miles north of Sacramento, the capital of the State. Its present population is about 10,000.

It was first settled by a party of Americans who entered this part of the Sacramento Valley in 1844, and were so pleased with the fertility of its soil and excellence of its climate that they obtained large grants of lands from the Mexican Government. There being at that time no white residents in Sacramento Valley north of Sutter's Fort, tracts of land farther south could have been obtained, but they found nothing in that direction that suited them so well. "Like the patriots of old," the whole land before them from which to choose, these pioneers must have found here in the upper Sacramento Valley some special attractions.

## TOPOGRAPHY AND SCENERY.

The surface of Tehama County consists first of a section of the Sacramento Valley, which, below Red Bluff, expands into a broad and level plain, swells on the west into low, level prairies that further on lift into broken hills, with the steep and rugged slope of the Coast Range beyond. Heading in these mountains, numerous streams flow east into the Sacramento, the principal of which are the Cottonwood, Dibble, Reed, Redbank, Elder, Thomes, and Stony Creeks. On the east this valley is bounded by a lava flow which extends for twenty miles or more up the western slope of the Sierra Nevada Mountains. Through these lava beds the large streams that carry the water caused by the snow and rain on the slopes of the Sierra Nevada have eroded deep, dark, and craggy cañons; above these lava beds, the Sierra become more precipitous, rising at some points to an altitude of more than 10,000 feet.

The scenery in this country is not surpassed elsewhere in California; the beautiful, the picturesque, and the grand are so blended as at once to challenge the admiration of the beholder. To the north Mount Shasta, 140 miles away, lifts itself to a height of 14,442 feet above sea-

level, 7,000 feet being covered with perpetual snow. On the east the Sierra Nevada stands as a great wall, linking the towering dome of Shasta with Lassen Butte, a volcanic cone over 10,000 feet high. To the west is the Coast Range, less lofty but even more sharp and craggy in contour than the Sierra. The dark green of the coniferous forests that cover the lower slopes of these mountains contrasts strongly with the fields of snow that rest on their summits. The landscapes near by are paragons of rural loveliness. The parks of great oaks dotting the hills and scattered over the plains; the long lines of sycamore and cottonwood that fringe the streams; the orchards and vineyards, and patches of alfalfa with their perpetual verdure; the large flocks of sheep, herds of cattle, and bands of horses here and there to be seen, and the vast fields of grain stretching for miles and miles away, present a picture that few other localities can match.

#### CLIMATE.

Very few people outside of those who have lived in Northern California understand the advantages of its climate. Northern, with most Eastern people and a great many Californians, is synonymous with cold. People of the Atlantic Coast and Northern States, where there are six months of snow and blizzards, never dream that Tehama County, situated on parallel 40° north, is blessed with perpetual summer, where the fig and olive, the orange and lemon, and the vine grow to perfection, nor can they understand that while Mount Shasta is covered with snow and ice, as it has often been pictured to them, the valleys are waving with golden grain, and the air perfumed with the odors of the orange blossom and the rose.

So much injustice has been done the climate of the northern part of the State, that we have taken great pains to prepare tables of temperature.

The people of Northern California are beginning to realize that they have a climate and a country equal to and in some respects better than that of the southern part of the State. But the Eastern visitors, who come by thousands to spend a winter in this State, have not yet learned the truth. Nearly all of them go to the lower end of the State, under the supposition that this upper California, being more northern, has a climate less genial. But the climate of the State is peculiar, controlled more by topography than by latitude. The altitude of our valley and foothill lands is from 300 to 500 feet above the sea.

We have but two seasons, the wet and the dry. The rainy season may be said to commence in October and end in May, although it sometimes rains in June. It seldom rains longer than two or three days at a time, and the intervals between rains vary from two or three days to a month. As soon as the rain commences, in October, the grass begins to grow, and by the first of December the country is covered with a green carpet of vegetation. In October and November the farmers do most of their planting and sowing. December is usually the coldest month in the year, but the thermometer seldom falls below 30° above zero. Snow can be seen on the mountain tops, but seldom falls in the valley. If it does, it melts as fast as it falls. December is usually the month of the heaviest rainfall. During January vegetation begins to assume the appearance of spring, trees begin to blossom, and the grass and grain



grow rapidly. Grain can be sown in this month and in March and April, and will produce very well. February is usually a pleasant month, like the month of May in the Eastern States. March and April are usually made up of sunshine and showers; vegetation grows rapidly, and some fruits mature and ripen at this time of the year; strawberries usually the 1st of April, and cherries and apricots in May. In the last of May and in June the grain matures. There is no more rain from that till October, and the farmer can harvest his crop without fear of storms.

*The Mean Monthly, Mean Annual, Maximum and Minimum Temperature at Red Bluff from 1880 to 1892, as given by the Signal Service Office.*

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
January .....	44.5	50.0	44.1	41.2	46.2	47.5	46.2	48.7
February .....	46.5	53.0	44.4	45.1	45.9	53.5	54.5	43.4
March .....	49.7	55.6	52.5	58.3	51.6	61.0	52.8	58.9
April .....	55.8	63.6	56.6	56.1	56.8	62.1	57.7	60.2
May .....	64.1	69.3	67.4	64.3	68.0	70.4	66.9	68.8
June .....	73.9	72.8	75.6	80.3	69.6	71.6	79.1	77.1
July .....	83.7	78.7	84.3	84.9	78.4	80.7	82.6	83.9
August .....	77.4	76.4	81.2	79.9	81.5	83.8	81.5	81.3
September .....	74.7	71.5	60.3	75.4	67.3	74.8	75.6	76.4
October .....	65.3	57.5	58.3	57.7	62.1	65.6	60.7	71.1
November .....	50.0	51.1	51.3	50.6	54.7	52.7	51.3	55.2
December .....	49.4	45.9	47.5	44.4	47.5	49.5	50.0	48.2
Mean annual .....	61.2	62.1	60.2	61.5	60.8	64.4	63.2	64.4

	1888.	1889.	1890.	1891.	1892.
January .....	40.9	45.0	39.2	48.4	47.0
February .....	53.9	50.8	45.0	44.4	52.9
March .....	54.5	56.8	50.8	55.0	56.5
April .....	67.0	61.2	60.3	57.8	54.1
May .....	68.1	67.0	67.8	66.3	65.6
June .....	70.7	79.7	72.6	72.2	71.8
July .....	80.9	81.2	80.4	82.5	78.9
August .....	83.6	79.9	79.7	83.1	80.4
September .....	81.2	76.0	74.3	73.0	72.0
October .....	68.2	61.4	65.0	66.0	63.5
November .....	54.8	54.4	58.0	57.0	56.1
December .....	48.3	44.8	45.0	42.6	47.6
Mean annual .....	64.3	63.2	61.5	62.4	62.2

	Maximum, and Date.		Minimum, and Date.	
1880 .....	108.0	July 24	26.0	November 30
1881 .....	103.0	July 31	31.0	December 13
1882 .....	105.0	August 7	25.0	December 30
1883 .....	107.0	July 3	19.0	January 19
1884 .....	107.0	August 10	22.0	February 14
1885 .....	108.0	August 18	33.0	Jan. 12, 25, and Dec. 31
1886 .....	109.0	July 15	30.0	Jan. 3, 4, 10, and 12
1887 .....	111.5	July 8	27.3	November 27
1888 .....	109.0	July 20, 21	19.5	January 14
1889 .....	111.0	July 29	26.0	February 17
1890 .....	110.0	July 23	22.0	January 14
1891 .....	114.0	Aug. 22	26.0	Jan. 10, Dec. 25
1892 .....	108.0	Aug. 18	28.0	December 21

*The Monthly and Annual Rainfall, and the number of Clear, Fair, Cloudy, and Rainy Days in each year from 1880 to 1892, as given by the Signal Service Office at Red Bluff.*

	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
January .....	2.01	9.40	2.81	.87	3.55	1.84	4.85	.57
February .....	1.66	2.79	3.94	.39	2.21	1.19	.18	5.21
March .....	1.70	.51	2.67	2.60	7.81	T.	1.31	1.13
April .....	7.05	1.83	2.12	1.96	4.31	.62	4.12	1.76
May .....	1.04	.79	.33	2.96	.18	.64	.73	.77
June .....		.51	.15	T.	.97	1.37	T.	.26
July .....		T				.05		T.
August .....				T.	T.		T.	T.
September .....		1.07	.49	1.04	.36	2.91		.06
October .....	.08	1.61	2.80	2.68	.90	.10	1.76	
November .....	.14	.73	5.07	.74	.04	17.05	.34	1.52
December .....	12.85	5.69	1.44	.52	7.73	3.86	3.92	2.32
Totals .....	26.53	24.93	21.82	13.76	28.06	29.63	17.21	13.60
Clear days .....	230	204	215	261	225	223	212	213
Fair days .....	74	103	89	67	84	96	91	98
Cloudy days .....	55	58	43	37	53	46	59	54
Rainy days* .....	66	72	69	44	71	70	63	57

	1888.	1889.	1890.	1891.	1892.
January .....	4.08	.51	6.53	1.36	4.30
February .....	2.17	.71	3.67	10.68	3.11
March .....	3.47	6.83	6.14	1.42	2.69
April .....	.53	1.11	1.70	2.27	2.92
May .....	.51	2.04	2.67	1.50	3.02
June .....	2.61	.64	.11	.55	.27
July .....	.07			.17	T.
August .....					T.
September .....	.33		1.55	.19	.29
October .....	T.	8.41	.01	.64	1.42
November .....	4.32	3.37		.46	7.25
December .....	6.85	9.25	3.10	3.80	8.21
Totals .....	24.94	32.87	25.60	23.04	33.48
Clear days .....	207	205	218	193	230
Fair days .....	89	70	89	103	88
Cloudy days .....	68	90	58	61	48
Rainy days—0.01 inch or more .....	79	97	79	91	89

\*All the days in which rain fell.

These tables have been checked by the records in the office at Red Bluff, and are correct.

JOHN J. McLEAN, Observer in Charge.

#### HEALTHFULNESS.

In regard to the healthfulness of Tehama County, we give in full the following report by Drs. G. W. Westlake and J. M. West, two of the leading physicians of the county:

"There is no consideration of so much importance to those seeking homes as the healthfulness of the locality they select.

"Good health is in importance paramount to every other consideration of life, and experience and observation teach us that climate and soil determine, to a great extent, the condition of health and the duration of human life.

"The Sacramento River, flowing nearly centrally through the county from north to south, and the numerous large streams flowing from the Coast Range Mountains on the west and from the Sierra on the east, and emptying into the river, form a system of natural drainage unequaled by any county of the State.

"If the reader will consult the map of Tehama County, and the report of the U. S. Weather Bureau at Red Bluff, in another part of this article, he will see at once that all the elements of climate so essential to health exist in almost perfect degree in Tehama County, and the experience of physicians who have practiced medicine in the county for twenty years or more verify the conclusions drawn from hygiene and meteorology. Malarial diseases have prevailed to a limited extent along the rich alluvial lands where streams are subject to overflow during the rainy season, but cultivation of these lands and clearing the dense undergrowth of vegetation from the belts of timber along the streams are rapidly causing them to disappear. Diseases arising from malaria in the above localities are of a mild type and readily arrested. Malignant types of malaria, such as prevailed along portions of the Ohio, Mississippi, and Wabash Rivers, are not seen in Tehama County.

"Epidemic diseases have been of rare occurrence, and are so modified by climatic influences that they have lost their malignancy. To illustrate: During the prevalence of scarlet fever in this county, during the years 1883-84-85, not less than four hundred persons were attacked, with a mortality of six, or one and one half per cent. The dreaded sequelæ that so often follow recovery from this disease in colder climates, such as deafness, loss of sight, etc., did not occur in a single case. Measles and whooping-cough are so mild in type, and complications of the respiratory organs so infrequent, that physicians are rarely called to treat them. Typhoid fever is of rare occurrence. In twelve years we have not treated a dozen cases in the county. The inflammatory diseases of the lungs, such as pneumonia and bronchitis, are not more prevalent in the winter season than in other portions of the State, while many persons with pulmonary consumption are greatly benefited by residence here. A large proportion of those afflicted with asthma enjoy complete exemption from it, and a residence of a few years results in permanent relief.

"Diseases of the bowels, such as diarrhœa, dysentery, cholera morbus, and cholera infantum, so fatal to infants and children in many parts of the country east of the Rocky Mountains, are of rare occurrence. But one epidemic of dysentery has occurred in the history of the county, while the mortality from diarrhœa and cholera infantum among infants and children during the past twelve years would not reach one per cent. The death-rate from all causes among children is as small in Tehama County as in any region of the globe of the same extent of territory. Red Bluff, the county seat, will compare favorably with any town in the State in healthfulness. The official records of deaths in Red Bluff for the past three years and six months, estimating the population at thirty-five hundred, show a mortality of only eight and eight tenths per thousand. (The records prior to August, 1882, were destroyed by fire.) With the testimony of physicians who have practiced medicine in the county for twenty years, and our own of twelve years, we can conscientiously recommend it to any one seeking a home in California for its healthfulness, splendid water, grand mountain scenery, semi-tropical winters, superb fruits, and productive soil."



## FRUIT.

With all our other advantages, we can boast without stint of our capabilities in the production of fruit. Growing side by side we have the lemon and peach, the olive and apple, the orange and pear, the citron and watermelon—all in the open air, asking and needing no protection from the weather or climate. Not only do these several fruits and many more grow here, but they grow well, due to the peculiar topography of the county, the soil, and the climate. One grand advantage we possess is that our fruits may be grown without irrigation, requiring no care other than good cultivation—a requisite, also, where irrigation is practiced; still, we claim that the fruits thus naturally grown are better in size, shape, color, and flavor than those grown elsewhere in the State. There is a crisp firmness about our peaches, apples, and grapes, peculiar to this county itself, which gives the fruits better preserving properties in shipment or for market. Our farmers, who have given their attention heretofore solely to grain-growing and stock-raising, are not as well versed in fruit culture as, with the advantages we possess, is desirable; but with new lessons, they are steadily learning what has long been neglected, and the vast sales of fruit trees of the past three years will, in a short time, result in orchards, proving that Tehama County excels in other branches of industries as well as in those heretofore followed. When the first settlers set eyes upon the great tracts of land on each side of the Sacramento River, from Red Bluff to Stony Creek, and from one range of mountains to the other, it was a waving field of wild oats, so thick in growth and so high that one on horseback would be concealed; and this fact alone was sufficient to prove to the great numbers who are now following, that a region of great fertility exists in Tehama County.

All varieties of grapes can be abundantly and profitably grown here. For the cultivation of the raisin grape our soil is the best in the State. Bartlett pears of the best quality are produced abundantly, and are a very profitable crop. One orchard of 10,000 Bartletts was planted in 1888 near Red Bluff. Much attention is being given to the cultivation of prunes, which is one of the chief fruit products of the county, as well as one of the most profitable. Irrigation is not necessary to the growing of good fruit, and many think it even undesirable.

Developments of the past few years have proven that our foothill lands are especially well adapted to growing fruits, particularly those above enumerated; and oranges hold as firm as any. These facts have induced our land owners to believe that citrus fruits are adapted to this county. They grow without much care, there being no need of protection from climatic influences; and they ripen earlier and possess equal color and flavor with the oranges grown in the southern portion of the State. The result is that there are but few places in the county without orange trees, but they are not yet grown in commercial quantities. Heretofore, oranges, lemons, pomegranates, figs, and similar semi-tropical favorites have been planted in grounds for ornamentation, but their extraordinary development has proven that they may be planted for profit as well as for ornament.

Figs are remarkably prolific in the county, often three crops maturing each year. No commercial value has been placed upon them in the past, the large, beautiful leaves of the trees being admired for their

novelty and shade; and figs could be obtained for the mere trouble of picking. Figs are easily grown, a few years developing a large tree from an ordinary slip.

Apples do not prosper as well on the bottom lands as in the foothills and mountains. Those from the latter regions are as good as the best grown in Oregon for taste, flavor, and color, and are better in size, and will keep for months after picking. In the mountains apples ripen as early as June, and continue ripening through the various varieties until about the first of November; and yet attention to diversified species has not been given until very recently. The winter apples are really beautiful, the rich golden or crimson sheen as bright as the highest polished rosewood, while the flesh is white, firm, and unspotted. Spitzenberg, Bellflower, Baldwin, and June apples have been, and will long remain, the favorites.

What has been said of the above fruits might be aptly said of all. We have seen a branch from a plum tree, about three feet in length, which had 130 plums clustered as closely as it was possible for them to grow. It is usual to thin peaches, apricots, almonds, and other fruits to save the tree from the great weight of the fruit. Fertilization has not been practiced to any extent, growers depending solely upon the virgin richness of the soil after cultivation.

Besides fruit proper, we have those species which are classed under the head of nuts, vegetables, and berries, and they do as well as the fruits. Almonds bear early and are of superior quality, both hard and soft shell. Walnuts of the English and American species are generally used for shade trees; the nuts grow large, are sweet and meaty. All the small berries grow in profusion—strawberries, raspberries, blackberries—the latter indigenous to the soil. Wild grapes and elderberries grow in all parts of the county along the creeks, and the grapes may be gathered for jelly as late as January. Strawberries do not continue during a great part of the year for want of proper culture, but those grown reach an enormous size. Vegetables of all kinds prosper, including the tender asparagus, artichoke, lettuce, cauliflower, etc., in the early part of the year, doing well without irrigation. Potatoes do well everywhere in the county, particularly in the mountains, these latter always commanding a high price for their superiority. Melons grow to great size without irrigation, watermelons which weighed upward of seventy-five pounds having been plucked from patches on high grounds. Muskmelons do well, while pumpkins and squash grow so profusely that they are used in feeding stock. We have seen corn on Hooker Creek over eight feet high, growing on the top of a high hill, with fruit trees and vegetables as near neighbors.

There are some fruits and plants which have been grown for ornamentation, which show that our soil and climate are well adapted to their culture. For instance, citron vines grow in Red Bluff without protection. Olives thrive in all parts of the valley. Hickory and chestnuts are common as curiosities, while magnolias, acacias, oleanders, palms, and Japanese persimmons are seen to a greater or less extent in all gardens. Yet we can see in the same gardens the cypress, elm, locust, pine, mulberry, and poplar. Where, under the sun, can such a variety of climatic extremes, as shown above, be seen? Florida with its oranges, France with its grapevines, the East with its peaches and apples—we can excel all in their best productions. And still, with a

million acres of tillable lands, we have but about ten thousand men, women, and children to occupy them.

Much might be written in detail of the various orchards now rapidly maturing in different parts of the county, and which will in a comparatively brief time change the whole face of the county. All the long list of fruits is represented in these orchards. Several of our large land owners are tardily awakening to the great importance of the fruit industry, and are setting out hundreds of acres in trees. A wonderful development in this direction has been inaugurated, and Tehama will ere long be one of the chief fruit-exporting counties in the State.

#### IRRIGATION.

Irrigation has not yet been generally practiced in Tehama County. As farming has been successfully carried on with the abundant rainfall there has been no necessity for resorting to irrigation, and the attention of the land-owners has never been called to the great resources of the county in that direction.

The water system is one of the most complete and best distributed to be found anywhere. From the north comes the great river, the Sacramento, which has its source in the mountains of the extreme northern portion of the State, and is navigable to the town of Red Bluff.

Its tributaries in Tehama County are numerous, and carry large volumes of water. On the eastern side is Battle Creek, which forms the northern boundary of the county. It takes its rise high up on the northern side of Lassen Peak, one of the topmost elevations of the Sierra. It has numerous tributaries, and runs nearly full bank through the whole summer. There are several smaller streams south of Battle Creek that water a considerable extent of country.

Antelope Creek takes its rise on the western slope of Lassen Peak, in several deep cañons, where snow and ice, partially protected from an almost tropical sun, remain nearly all summer. This is a beautiful, clear mountain stream, and it carries several thousand inches of water in the driest season. Its water is clear, cool, pure, and soft, and furnishes Red Bluff with an ample water supply. It also waters a great area of the best grazing and farming country. Its general course from its source is southwest until it reaches the valley of the Sacramento. At the mouth of the cañon that opens into the valley it divides into several streams that flow through and water the valley lands for several miles.

The next stream south is Mill Creek, which rises on the southern side of Lassen Peak. This is a larger stream than Antelope Creek, and carries a larger volume of water than any other tributary of the Sacramento between the Pitt on the north and the Feather on the south. It is a clear, rapid stream, and carries water enough, even at its lowest stages, to furnish power for great mills and factories, or to irrigate several thousand acres of land.

South of Mill Creek is Deer Creek, which forms the northern boundary of the celebrated Vina tract. This stream rises in the high Sierra, south of Lassen Peak. This stream, too, has its source in the great cañons and gorges that lie buried deep in the mountain sides. In these cañons and gorges, some of them hundreds of feet deep, the snows are blown, and under the action of the sun they form solid masses,



almost glacial in character. From these great reservoirs of nature vast volumes of water are liberated by the summer's heat. By that means Deer Creek is a running stream all summer. It is, like Antelope and Mill Creeks, a clear, cold, and rapid stream. It furnishes water enough to irrigate many thousand acres of land. There are now two hundred miles of irrigating ditches carrying water from the stream.

South of Deer Creek is Pine Creek, which rises in the foothills of the mountains. It carries considerable water in some seasons of the year, but it does not bear comparison with the other streams, which are snow-fed through the summer.

It is safe to say that there are no streams in this State that carry purer water; that run fuller banked through the summer; that are more valuable for the purposes of running machinery, for irrigation and for domestic use, than these mentioned. There is no portion of the Pacific Coast better watered than the eastern portion of Tehama County.

The water system of the western part of the county is also very extensive. All the streams forming that system have their sources in the Coast Range or its foothills. This Coast Range rises to an elevation of 6,000 feet, and its eastern declivities present long slopes, forming immense drainage basins, which send down during the rainy season large volumes of water through the numerous streams.

The volumes of water that fill the streams through the winter and spring could be easily stored in the mountains and foothills, where with the excellent facilities for water storage, with a moderate outlay of capital and labor, all of western Tehama could have an abundance of water all through the year. Nature has supplied an abundance of it, and only enterprise is required to save and utilize it. At present the needs of storage and distribution are not so much felt; but in the future development of this great area it will be called into use. All over this section good water is obtained by digging wells to a moderate depth. Tehama County has one of the largest and best distributed water systems, and is one of the most thoroughly watered counties on the Pacific Coast.

#### TIMBER SUPPLY.

There is an abundant supply of timber all over the county. There is no township without timber for fuel, and there are sections of the county which have some of the largest forest growths on this continent. All along the streams there are cottonwoods, sycamores, elders, alders, oaks, and white maples. On the bottom lands bordering the Sacramento, on both sides, there are large areas of oak parks, containing many oaks of astonishing size. Very much has been justly written of the great oaks on the Rancho Chico, in Butte County, but fully as large ones may be seen on the Vina ranch of Governor Stanford, on the ranch of J. S. Cone, opposite Red Bluff, and in many other places in the Sacramento Valley. In many places on the higher portions of the valley there are large areas which have oak timber covering them. The whole western portion of the valley lands has these scattering forests.

On the Coast Range there are some fine timber growths, mostly pine, fir, and spruce. It is in the Sierra, however, that the great forest belt of the county is situated. There, in a belt 15 miles wide and 40 miles

long, in Tehama County, are forest growths unexcelled in America. The pines and firs are, many of them, 200 feet in height.

There is lumber, not only for the use of the whole county, but for export. In these great woods are several of the largest sawmills in the State. The Sierra Lumber Company has a V-shaped flume 40 miles in length, leading from these forests to the Sacramento. That company manufactures about 20,000,000 feet each year from the forests of Tehama County. The home-seeker can find no spot in Tehama County where he will not be within easy reach of timber for fuel and for all purposes of building and fencing. In this respect he will find a marked contrast to portions of the plains and prairies where timber is 70 and 80 miles away, and where the only fuel for cooking and heating is hay, as it is in some parts of Dakota.

#### QUESTIONS ANSWERED.

The county has a spacious Court-house, a fireproof Hall of Records, and a new and commodious hospital at Red Bluff.

We have good roads and bridges. One of the finest bridges on the coast spans the Sacramento River at Red Bluff.

Vegetables can be grown rapidly.

The climate is very mild in the winter.

Earthquakes never visit this section.

Sunstrokes are unknown.

Lightning and thunder are very unusual.

The average product of wheat per acre is about 16 bushels; barley, 20 bushels; oats, about 20 bushels, and hay about one ton per acre. Our hay is principally wheat, oats, and barley raised from the seeds sown each year, except occasionally a crop that comes from volunteer; that is, grain that comes up from the seed left scattered on the ground from the previous crop.

Value of stock horses, \$50 to \$150; mules, \$100 to \$200; cattle, all ages, about \$20 per head; cows, \$25 to \$50; sheep, \$2 to \$3 per head; hogs, 4 to 6 cents per pound; farm wagons, \$75 to \$120; plows, from \$10 up; lumber for building, from \$16 to \$35 per thousand; wool brings from 12 to 20 cents per pound; grain brings from 70 cents to \$1 per bushel; hay, from \$8 to \$15 per ton; chickens bring from \$4 to \$6 per dozen; eggs, 20 to 40 cents per dozen; turkeys, 10 to 15 cents per pound.

The average annual rainfall at Red Bluff for the past eleven years was 24 inches.

Snow is a curiosity, except on the mountains.

Blizzards we never have, and frost rarely.

Price of land ranges from \$5 to \$100 per acre, depending on location, quality, and improvements.

There are many small farms of good agricultural land obtainable for \$20 to \$50 per acre.

All kinds of fruit that grow in the State do well in Tehama County.

Red Bluff is an excellent point for a woolen mill, and inducements will be offered for establishing one.

There are ample facilities for all kinds of manufactories.

Red Bluff has two banks.

Land is cheaper here than in almost any county south of us.

The special industry to which we look for the most marked future development is fruit culture.

There is a steady increase in the extent of land cultivation.

We have never had a failure of crops.

The principal manufacturing industries at present in operation are an extensive sash and door factory at Red Bluff, and a large flouring mill near Tehama, and one in Red Bluff, and a cannery at Red Bluff.

Water power is ample. Fuel is plentiful and cheap—\$3 to \$4 per cord.

Tehama County excels in table and raisin grapes. We have no fog.

Irrigation is but little practiced, but there is abundance of water for irrigation in all parts of the county for those who see fit to use it.

The mildness of the winter season is the great attraction of life in this section. The valley is semi-tropical. As the foothills and the mountains are ascended the climate becomes cooler.

There are large bodies of cheap foothill land suitable to fruit culture.

Clothing, boots, shoes, etc., are nearly as cheap here as in the East.

Table board can be had from \$16 to \$22 per month; flour costs \$2 per 100 pounds; meats 8 to 12½ cents per pound, and other things in proportion.

City lots, size 25x100 feet, sell from \$75 upward. Comfortable houses rent from \$12 to \$25 per month.

Generally speaking, there is no trouble from malaria or fevers.

The rainy season is during the winter months.

Young fruit trees sell as follows: Apple, plum, peach, apricot, and almond, \$10 to \$15 per hundred; pear and cherry, \$10 to \$20 per hundred; orange and lemon, 75 cents to \$2 each.

The hay season commences in May, harvesting in June and July.

There is no extra demand for carpenters or other mechanics, or school teachers.

The professions are well represented.

Farm wages are about \$15 per month during the winter season, and \$35 per month in the summer, with board.

None are advised to come without some means.

From \$1,000 to \$2,000 is necessary for a man to buy a small farm and commence business.

The California and Oregon Railroad runs from San Francisco on both sides of the Sacramento River, converging near Red Bluff, and thence north to Portland, Oregon.

Steamboats run to the town of Red Bluff as formerly, the head of water navigation.

There are thousands of acres of good fruit and grain land for sale at reasonable prices. These lands can be purchased in small or large tracts, on easy terms of payment. Settlers can deal directly with the owner or agents. Prices vary from \$15 to \$100 per acre—the higher price being the maximum for first-class river bottom soil near railroad. There is no county in the State, offering equal advantages, where land is so cheap.

There is not much desirable agricultural public land.

Rate of taxation, \$1 50 on the \$100, and property is assessed at about two thirds its value.

The distribution of tree planting shows that all parts of the valley region are adapted to fruit. In the extreme north on Cottonwood Creek



there is one orchard of 500 acres; another of 250 acres, and many smaller ones. In the extreme south on Deer Creek there are about 2,500 acres of contiguous plantings, and there also is the world-renowned vineyard of 3,000 acres, belonging to the estate of the late Leland Stanford. For thirty miles west of Red Bluff, planting is going on extensively; so around Corning at the southwest, and in all directions around and near Red Bluff.

## STATISTICS FOR 1894.

*Number of Fruit Trees.*

	Bearing.	Non-Bearing.
Apple.....	3,270	3,900
Apricot.....	32,794	15,408
Cherry.....	3,810	1,560
Fig.....	3,080	7,140
Olive.....	176	6,780
Peach.....	228,140	5,640
Pear.....	20,180	19,620
Prune (French).....	31,195	33,690
Prune (other kinds).....	40,480	8,755
Lemon.....	22	195
Orange.....	480	1,450
Almond.....	5,870	23,490
Walnut.....	285	2,110

*Grapes.*

Acres table grapes.....	390	65
Acres raisin grapes.....	780	20
Acres wine grapes.....	3,110	----

*Agricultural Products.*

	Acres.	Bushels.
Wheat.....	37,657	376,570
Corn.....	250	5,000
Barley.....	11,636	174,540
Oats.....	1,353	23,000
Potatoes.....	90	9,000
Hay.....	7,938 (tons)	5,954

*Cattle.*

Beef cattle.....	810
Stock cattle.....	9,073
Cows, thoroughbred.....	150
Cows, American.....	1,448
Yearlings, thoroughbred.....	144
Calves, thoroughbred.....	40
Bulls, thoroughbred.....	40

*Horses and Mules.*

Horses, thoroughbred.....	39
Colts, thoroughbred.....	4
Horses, American.....	540
Horses, common.....	3,536
Colts, common.....	1,287
Jacks and jennies.....	16
Mules.....	1,701

*Hogs.*

All ages and kinds.....	9,763
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*Sheep and Goats.*

Sheep, imported (bucks).....	1,591
Sheep, common.....	150,174
Lambs.....	9,610
Goats, common.....	1,097

*Poultry.*

All kinds, dozen.....	1,620
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*Bees.*

Bee hives ..... 355

*Wine and Brandy.*

Brandy, manufactured, gallons ..... 100,000  
 Wine, manufactured, gallons ..... 200,000

*Wool.*

Spring and fall, pounds ..... 917,500

*Manufactured Articles.*

Lumber, all kinds, feet ..... 9,500,000  
 Sash, pairs ..... 20,000  
 Blinds, pairs ..... 1,000  
 Doors ..... 37,000  
 Transoms ..... 2,000  
 Mill work, etc., value ..... \$50,000

*Shipments of Brandy, Dried and Green Fruit, and Nuts, during 1894.*

Brandy ..... 200,000 gals.  
 Dried fruit ..... 135 cars.  
 Green fruit ..... 20 cars.  
 Almonds ..... 1 car.  
 (Cars contain 12 tons each.)

*Amount of Canned Goods, Dried Fruit, Vegetables, Nuts, and Raisins, shipped by the Red Bluff Cannery from Red Bluff during 1894.*

Apricots ..... 92,032 lbs = 46.016 tons.  
 Peaches ..... 229,147 lbs = 114.573½ tons.  
 Prunes ..... 175,577 lbs = 87.788½ tons.  
 Pears ..... 36,245 lbs = 18.122½ tons.  
 Almonds ..... 13,740 lbs = 6.870 tons.  
 Canned goods ..... 15,000 cases = 12 cars.  
 Raisins ..... 1 car.  
 Potatoes ..... 6 cars.  
 Onions ..... 3 cars.

Respectfully submitted.

M. R. HOOK,  
 Secretary.

# REPORT

FROM THE

## THIRTY-FIRST DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Ventura,

FOR THE YEAR 1894.

**Officers.**—John G. Hill, President; Thos. H. Merry, Secretary; Thos. J. Gregg, Treasurer.  
**Directors.**—John G. Hill, Montalvo; D. T. Perkins, Hueneme; William I. Rice, Nordhoff; J. R. Willoughby, Ventura; Leon Lehmann, Hueneme; W. M. Zeller, Hueneme; J. B. Palin, Springville; Chas. Donlon, Hueneme.

HUENEME, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-first District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.	
From life members' fees.....	\$75 00
From advertisements in premium list.....	98 00
From privileges on fair grounds.....	541 85
From gate receipts and grand stand.....	1,550 35
From entries to races.....	1,277 50
From entries deducted from winnings.....	1,580 00
From sale of private boxes.....	31 00
From premium refunded.....	2 50
From State appropriation.....	2,000 00
From delinquent entries of 1893.....	65 00
	<hr/>
Bills receivable due Association.....	\$7,221 20
	582 50
	<hr/>
	\$7,803 70

EXPENDITURES.	
For the American Trotting Association.....	\$25 00
For straw and freight.....	69 35
For employes and labor on Fair grounds.....	385 50
For decorating Pavilion.....	39 50
For lumber and carpenter work, painting, etc.....	68 98
For advertising.....	143 90
For printing premium list, posters, and blanks.....	91 60
For Fair Publishing Co., supplies.....	63 85
For Wolff & Lehmann, supplies.....	59 74
For W. K. Vanderslice & Co., silver prizes.....	31 50
For telegraph, telephone, express, postage, and other incidental expenses Secretary's office.....	65 15
For music Ventura Band and bill posting.....	202 00
For salary of Secretary.....	200 00
For collecting statistics for report for State Board.....	50 00
For rent of Fair grounds.....	600 00
For premiums on exhibits.....	1,191 50
For purses in races.....	4,680 00
	<hr/>
	\$7,967 57
1894—Expenditures over receipts.....	<hr/>
	\$163 87



## ASSETS OF THE ASSOCIATION.

Improvements on Fair grounds .....	\$4,720 14	
Furniture and fixtures .....	250 00	
Due from life members .....	200 00	
		\$5,170 14
Indebtedness of the Association, due to Bank of Hueneme .....		2,583 18

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 31.

## (Ventura County.)

Geographically sandwiched between the well-known counties of Santa Barbara on the north and west, and Los Angeles on the north and east, with the Pacific Ocean forming its south boundary, gently rests the county of Ventura, constituting the Thirty-first Agricultural District of California. While not so well known nor so well advertised as our favored neighbors, and while not chiefly relying upon the amount of grand and glorious *climate* produced to the acre, nor upon the annual crop of Eastern invalids and tourists which forms a large source of their revenue, still Ventura, besides an equally good climate, has resources now in process of development which will ere long place her among the foremost counties of our fair and favored land. Fronting on the Pacific Ocean forty-five miles, the same hand that tempers the wind to the shorn lamb has placed the islands of Santa Cruz, Santa Rosa, San Miguel, and Anacapa like a shield, to break the force of the prevailing and harsh trade-winds, and has turned the warm Kuro Siwo current, better known as the Japan current, eastward from Point Conception, whence it flows past our entire front, rendering our coast climate mild and pleasant, and at the same time laden with health and vigor.

From the coast Ventura extends its lines fifty miles northward to and beyond the high mountain range where El Monte de los Pinos rears its snow-clad peak 9,200 feet in the ethereal blue. Thus situated, with the grand and productive valleys of La Colonia, Santa Clara, Las Posas, Simi, Ojai, Conejo, and numberless small and fertile dales among the hills and mountains, Ventura offers to the home-seeker a variety of location, altitude, soil, and all those attributes that go to make up a pleasant and profitable home. Hard to please, indeed, is he who cannot be suited here in a land "where every prospect pleases" and very few men are vile. While a mild and enjoyable climate goes a long way to make a home healthy and pleasant, still something more than mere beauty of scenery or mildness of climate is required to make it a prosperous and profitable one—something more substantial, which can be exchanged in the marts of commerce for gold or greenbacks, or even for the despised silver, viz.: the combined products of the soil, brought forth by intelligent labor. To these products of Ventura County I shall address myself in the report required by the State Board of Agriculture.

## BEANS.

It used to be a common saying that land that won't grow beans won't grow anything else. While this may be partly true, still experience has taught us that the better the land the more beans you will get to the acre, and if your object is to raise beans for profit, no land is too good

for that profitable crop. One ton and a half of Lima beans to the acre, at the present price of 4 cents per pound, making \$120 an acre for the crop, ought to be sufficient inducement to plant them in the best land.

While something like eighty varieties of beans have been raised in this county, still only a few varieties are required to fill the demands of commerce and of the present market. Lima beans take the lead, finding a ready sale in the Eastern markets; of these we raise mostly the flat Lima, which is the variety chiefly raised for market, and for which there is the greatest demand. Then we have the improved Lima, a fine variety, large and somewhat round; its introduction was not a success, because it did not suit the market. The Challenger Lima was raised here last year for the first time. The large Champion Lima, the Dreer, and the Burpee are also raised here; all of these are creeping varieties of Lima beans. The Rice Lima, Sieve Lima, and the Jersey are varieties of bush Lima beans, grown here mostly for seed purposes, to fill the demand of Eastern seed houses.

The Lady Washington is a very handsome white bean, about double the size of its compeer, the Small White. These two varieties are in the largest demand, and next to the Limas are most extensively cultivated; they yield well and are a profitable summer crop, and are harvested without danger from the early rains, which sometimes catch the Lima bean grower with his beans in the field. The Tree bean, Pea bean, and the White Prolific are fine varieties of small white beans, and if they were better known in the market, would be better appreciated. Then we grow, also, the well-known Pink and Bayo beans of '49 and '50 memory, when they constituted the chief staple food of our hardy pioneers, and are well enjoyed even in this present day. The Red Kidney and Yellow Eyes are also, in a small way, beans of commerce. The Black Eyes and the Garvanza, of which varieties we raised and shipped out of the county more than *fifty carloads* during the season of 1893-4, are favorite beans with our Italian and Portuguese population. The latter variety is much used in adulterating roasted ground coffee, and is raised mostly for that use.

The primitive, old way of threshing beans, by tramping the vines with horses and then cleaning them with a fanning mill, is now obsolete, except for small lots. The harvesting is done by cutting the plants off an inch below the surface of the ground with a tool drawn by two horses, which cuts three rows at a time. They are then piled in small cocks in rows and hauled to the threshing machine like grain. The cylinder of the separator is changed by taking out every other tooth to prevent breaking the beans, which thus leave the machine threshed, cleaned, and ready for market. Lima bean straw is always in demand for feed for cattle. It is baled when threshed out, and sells for from \$5 to \$6 per ton; cattle do well on it when other feed is scarce. Good bean land in this county sells readily for \$150 an acre, which is not high, considering that three crops in good seasons are likely to pay for it.

#### CEREALS.

*Barley.*—The cultivation of this cereal is now almost entirely confined to new and second-class lands, mostly in the Colonia, Las Posas, and Simi, where, in good seasons, a vast quantity is raised. The amount harvested last year was 688,102 sacks, of 115 pounds each. The average

yield in a good season is from 20 to 40 sacks to the acre. The low price of barley ruling during the last four years has well nigh discouraged the farmers who have raised it, and many have turned their attention to other crops. The price has been from 55 to 70 cents a cental, which, after paying 12 cents for threshing, 8 cents for sacks, besides other expenses of harvesting, leaves the farmer too small a margin of profit. Nevertheless, as barley is grown on lands not adapted to beans or corn, it will, for some time, continue to be a staple product of Ventura County.

*Wheat* is not raised in large quantities in the county; much of that sown is cut for hay. Near the coast, from excessive moisture, it is apt to rust, and the low prices of the last few years prevent its cultivation with profit. In the Simi, Conejo, and Ojai Valleys, good wheat can be raised, but as it has to be hauled with teams from 20 to 35 miles to the shipping point, there is little profit in it. The quality of the wheat raised is good, and the yield per acre large, being from 15 to 20 sacks per acre. Some day when railroads shall reach our now isolated valleys, and the price be such as to justify the farmer in doing so, large quantities of wheat will be raised here.

*Corn* is also one of Ventura's staple products, and is generally a moderately profitable crop. The product last year was 85,062 sacks, of 140 pounds each. The varieties planted are the large yellow, small yellow, and white flint, all of which find a ready market at from \$1 10 to \$1 40 per 100 pounds. Corn land of good quality sells for \$150 an acre. Crops of beans and corn can be alternated with profit.

*Oats*.—About 1,000 sacks were raised last season in the Simi Valley, but near the coast rust and excessive moisture prevent their profitable cultivation.

#### HAY.

Wheat, barley, and wild-oat hay is raised in large quantities in the Santa Ana, Simi, Las Posas, and Conejo Valleys. It is generally a good crop, and fairly remunerative, varying in quantity per acre with the quality of the land and the amount of rainfall. Alfalfa is successfully raised on the low lands of the Colonia, and from four to five crops are raised each year without irrigation. Gophers are the worst enemy the farmer has to contend with in raising alfalfa, and nothing but periodically flooding it will exterminate them. A farmer near Hueneme killed over nine hundred gophers at one flooding of a ten-acre field of alfalfa. On the Patterson ranch, near Hueneme, upwards of a thousand tons of alfalfa hay was cut and cured last season, all of which commanded a ready sale, owing to the prevailing dry season. The farmers engaged in bean culture find it cheaper to buy hay than to raise it on their bean lands; this adds largely to the demand for home consumption; the surplus finds a ready market at San Diego and other less favored localities.

#### HONEY.

Ventura County has for years held her place at the head of the honey-producing counties of California. It is always a profitable crop where conditions are favorable, for it costs but little to get it ready for market. In the mountainous regions of Ventura, along the many streams in the county, are found the bee ranches. Good water and abundant blossoms are a prime necessity—the busy little workers must have these or there



is no honey. In cañons where the white sage abounds, and where the clear and sparkling water of the mountain streams flows the year round, are the favored spots selected. The white bee-hives, arranged in village form, dot the hillsides, and woe to him who dares to trespass upon their domain. While some men possess the faculty of handling bees with impunity, my experience has been to let them severely alone, or not to attempt to cultivate too close an acquaintance. The honey is strained where it is produced, then run into five-gallon tin cans, two of these put into a case, and it is then ready for market. It is hauled to Hueneme and Ventura wharves, to be there shipped to market. The price of clear strained honey ranges from 5 to 7 cents per pound, at which latter price it is a profitable crop. On account of the prevailing dry season but little honey was produced in 1894. In 1893 the output was 804,561 pounds. To the invalid or aged unable to perform hard labor, bee-keeping offers an easy and at the same time fairly profitable occupation, while the enjoyment of out-door life in our healthy and delightful mountain climate will soon restore one to health and vigor. The bee ranches are mostly located on Government land in the mountains, much of which yet remains to be taken up.

#### WALNUTS, ALMONDS, PEANUTS

Are extensively raised, especially the former, which have always been a remunerative crop, and for years have been another of Ventura's staple products. The trees are planted fifty feet apart, and while growing, for several years beans may be planted between the rows of trees without retarding their growth; thus the farmer derives a revenue from his land while his trees are growing, and the thorough cultivation of the land necessary for beans is beneficial to the walnut trees.

Walnut trees do best in a rich alluvial soil, well drained, and with water not less than twelve feet from the surface of the ground. Walnuts not being a perishable crop, the growers may store them and wait for a remunerative market; even if they have to wait until the restoration of the McKinley protective tariff shall give our growers of walnuts, raisins, prunes, beans, barley, and wool a market for their products, freed from the ruinous competition of peon and serf labor.

#### DRIED FRUITS, ETC.

The drying of apricots and prunes has become a prominent industry in Ventura County. The apricot has reached a perfection seldom found elsewhere. The conditions of soil and climate necessary to grow this fine fruit are found within a strip ten miles wide, along the coast. Ventura dried apricots have attained a world-wide reputation for their excellence. The area where the apricot can be profitably grown is limited to California, and even in our favored State there are not many places where it does very well, or where it can be satisfactorily grown. In the northern and central portions of California the trees grow rapidly, but are shy bearers; so there is no prospect or fear that the market for this fine fruit may be glutted. The varieties raised are the Royal and Large Early. These do best here, though the Moorpark grows to a large size and is a good fruit to sell fresh, but it has a trick of ripening one side at a time, which makes it unsuited for drying.

The process of drying and curing in the sun is very simple. The fruit is pitted and spread on shallow trays 3 x 4 feet with a slate bottom. When filled the trays are placed one on the top of another until about twenty trays are thus piled; then an air-tight frame covered with enameled cloth or oilcloth is placed over the pile of trays, its lower edge resting on the ground. Burning sulphur is placed in a hole under the frame, and its fumes ascending reach all the fruit, which is not only bleached by the process, but the larvæ of worms or insects, should there be any on the fruit, are at once killed; thus the sulphuring accomplishes a double purpose. Half an hour completes the operation. The trays are then spread on the ground and the fruit is dried by the sun. When the fruit is sufficiently dried the trays are carried to the packing-house, where it is dumped on a clean, dry floor, and is packed in white cotton sacks and shipped to market. The fruit may be safely kept in bulk on this floor for several months, but in that case it must be handled and turned over every week or so, otherwise it would be injured. The pitting and spreading on the trays are done by women and girls, who earn about a dollar a day and their board. Those engaged in drying pay from \$15 to \$20 a ton for the fruit, which when dried brings from 6 to 10 cents per pound. At 8 cents a pound for the dried fruit, an apricot orchard in full bearing will often pay \$300 per acre.

The cultivation of prunes for drying purposes has not yet passed the experimental state in Ventura County; should it prove a success there is ample room for its expansion. On the road to the Ojai Valley may be seen several hundred acres in prunes. The clay soil of that locality, with an admixture of disintegrated granite, seems to be particularly well adapted to their growth; no handsomer young prune orchards can be found in the State. In Pleasant Valley a prune orchard of one hundred acres was set out last year. In the Simi Valley the young prune orchards are thriving and doing remarkably well, and there are there thousands of acres where they would do equally well, and will afford pleasant homes for thousands of people.

For drying purposes, the French prune is generally preferred. Apples, pears, and peaches are also dried, but not in sufficient quantities to constitute an article of commerce.

#### FRUIT CULTURE

Is carried on extensively in the county. In favorable localities citrus fruits do exceedingly well and are profitably grown. The lemons grown and shipped by N. W. Blanchard, of Santa Paula, have attained a national reputation for their superiority. The Lemoneira Company, a corporation of Santa Paula, has purchased 400 acres of fine land, which is to be entirely devoted to lemon culture. Three hundred acres have already been set out; the balance of the land will be set out this season, thus making a lemon orchard of the four hundred acres. It will take years for the trees to reach their full bearing capacity, but when they do, it will prove a profitable investment. The company has a very complete system of irrigation. The oranges, Washington Navels and other varieties, grown by William I. Rice, on the Santa Ana Rancho, and by J. Logan Kennedy, at the mouth of Matillaja Cañon, and by Ed. S. Thacher in the Ojai Valley, took first premiums at the Midwinter Fair over many competitors. Though the culture of citrus

fruit is not made a specialty in Ventura County, still there are many localities in the county that are well adapted to it.

The fruit display at our last District Fair was more than creditable, showing that Ventura is not behind other counties in this line. The peaches exhibited at the fair by Mr. Lewis Walker, and grown by him in the Cañada Larga, are worthy of special mention for their large size, high coloring, and fine flavor.

In the northern part of the county, about the Sespe, fine grapes are grown for the market. Tokays, Muscatels, and other varieties do well there.

#### CRUDE PETROLEUM

Is one of the leading industries of Ventura, and in its output and production of crude oil for export it is far in the lead. The district where the oil is found in large quantities is quite extensive and is operated by ten or more companies, of which the Union Oil Company is the principal. The annual output of oil is very large, and is susceptible of large increase, when the demand shall justify it. A successful experiment has been lately made by the Santa Fe Railroad Company: Two of their locomotives were changed to burn crude oil, and when completed were tried in long and short runs, with the most satisfactory results. Should continued experiments demonstrate the adaptability of crude oil for locomotive fuel, and its use become general, it will not only effect a large saving to the railroad companies, for it can be supplied at one half the cost of coal, but it would give a great impetus to the development of many oil fields now lying dormant or yet undiscovered. I reserve for a future report details of this important industry, when facts and figures may be collated by a personal inspection. Realizing that I have already extended this report of the productions of Ventura County beyond the prescribed limits, the only apology I can offer is my desire to do justice to our favored land, and to do so by confining myself strictly within the limits of actual facts derived from personal observation; it is not my purpose to boom any locality or to mislead those who may seek homes in our midst.

#### OTHER RESOURCES IN BRIEF.

*Asphaltum.*—Very extensive deposits of this valuable mineral are found in several parts of the county. Doubtless many others exist which are yet undiscovered, but this important industry now languishes in its infant state, first because its value for paving streets is not fully appreciated, and secondly because it costs too much to transport it to market. The time will come when it will form a very important industry in the county, giving employment to hundreds if not thousands engaged in mining and refining it for market. Last year about a thousand tons of prepared asphaltum were shipped to New York via San Francisco.

*Building-Stone.*—Two quarries of sandstone for building purposes have been opened, one on Ventura Avenue, and the other and better known one being on the Sespe. It is generally known as Sespe brown-stone, but the color is more red than brown. The Chronicle building in San Francisco is faced with this stone; in Los Angeles it has also been used for building purposes. The stone is found in practically unlimited quantities; it is of an excellent quality, standing well every



pressure test applied to it. But here again that curse to California which has crushed the life out of many of her infant industries—cost of transportation—comes in to prevent its more general use.

*Limestone and Gypsum* are found in the Ojai Valley and elsewhere in the county. Gypsum is particularly valuable as a fertilizer, and for use on alkali lands, where it neutralizes and destroys the alkali, leaving the soil fertile and productive of any crop grown on surrounding lands. The cost of quarrying and preparing the gypsum, together with long hauling by teams, prevents its general use on thousands of acres now almost valueless by reason of strong impregnation with alkali.

*Potatoes* are raised in large quantities on the rich, sandy loam soil of the Colonia, not only to supply the entire home market, but leaving often a large surplus to ship to Los Angeles and San Diego. The Burbank raised from Oregon seed is the favorite, and yields from five to eight tons per acre. With a view to utilizing the surplus potatoes, also the small ones which would otherwise be useless, the farmers on the Colonia formed an incorporated company, and at Hueneme, at a cost of over \$10,000, built a starch factory, fitted up with modern appliances and improved machinery. At the time of its starting up, confectioners' starch was selling in San Francisco for 6 cents a pound. If only that price could be realized for the output of Hueneme starch, farmers would be well paid for their investment. Under these favorable auspices the factory was started, and the starch manufactured was of excellent quality, pronounced so by experts. The first run of about 75,000 pounds was neatly packed in barrels and placed on the market. But alas for human hopes and expectations! The bottom fell out of the market, and but from 3 to 3½ cents a pound was realized. When freight and commission were taken from this, the balance was on the wrong side of the company's ledger. The farmers insisted on 30 cents a sack for their refuse potatoes, delivered at the factory. From 15 to 20 cents a sack was all that could be paid. This left no profit to the farmer; he discontinued the supply, and the factory shut down. It stands there to-day a monument to a few progressive farmers, who found that, under the liberal tariff of a free-trade administration of our glorious nation, this kind of starch could be imported from Germany cheaper than American farmers can produce it.

*Wool-Growing*, once a leading industry of Ventura, now languishes in the last stages of a speedy dissolution. If not quite dead, it soon will be, for it can never survive the destructive competition forced upon it by free trade. Let it die in peace! Let the howl of the coyote as he nightly sits upon our "thousand hills," and hungers for the lambs that once were his, serve as a requiem over the grave of an industry that once existed and prospered in fair Ventura.

*Gold*.—Placer and quartz mining is carried on at the head of Piru Creek, also on Lockwood Creek, in this county. Placer mining is mostly done by dry washing, but only in a small way, for lack of water. Three quartz mills, two run by steam and one by water power, are successfully operated. The ten-stamp mill at the Frazer Mine, burned last summer, has now been replaced by one of twenty stamps. The ore worked is of low grade, averaging about \$10 a ton. A three weeks' run of the Frazer Mill last summer gave a clean-up of \$2,500. The men engaged in placer mining make an average of \$2 per day.

*Flower Seeds and Bulbs.*—This new industry is now carried on by three firms, with a good prospect for its growth. The flower seeds and bulbs are grown in the open air, and find a ready sale to Eastern seed houses; most of them are grown to fill orders. It is a pleasant, and I hope a profitable, business, and one that is capable of vast expansion.

*Stock-Raising.*—In completing this, my report of the products and resources of Ventura, I should not omit the raising of stock—horses, cattle, hogs, and poultry—which forms a part of the annual output and revenue of the farm.

The work horses in Ventura County will compare favorably with those of any county in California. Our farmers have taken special pains to improve their stock by crossing with Percheron, Belgian, and Shire breeds for general work horses. A cross with Cleveland Bays turns out teams suited to the road and farm purposes. A successful cross has been made by breeding large Norman mares to a thoroughbred race horse, the product being a large horse with enough warm blood in him to give plenty of life, good action, and improved looks. With such a horse, well fed, one need never fear being left on the road.

Electric and cable cars, bicycles, and other causes have all tended to depreciate the value of horses for selling purposes. The Patterson Ranch, Hill & Thacker, Gries & Bell, and W. L. Hardison are our principal horse-raisers; but almost all the farmers raise horses on a smaller scale.

Cattle-raising, once the principal industry of the county, is so no longer, the lands having been utilized for farm purposes. Rose & Hobson, Casper Borchard, the Ortegas, and a few others are still engaged in the business.

Hogs have always been a profitable crop, and are so now where the farmer is so situated that he can raise them advantageously. Many a Ventura farmer who is now "fore-handed" owes his wealth to the lowly swine. The price of fat hogs varies from 3 to 6 cents per pound on foot.

Poultry is raised all over the county, and the shipments of eggs are very large. Eggs and butter are the perquisites of the farmer's wife. With these she supplies herself not only with pin-money, but in many cases pays the entire grocery bill for the family. Turkeys do exceedingly well, and bring from 10 to 15 cents per pound on foot. Chickens sell for from \$3 to \$5 a dozen. Ducks the same price. Eggs bring from 10 to 35 cents a dozen. There are three poultry yards in the county where chickens and eggs are sold at fancy prices, mostly to experimenters and green ones who don't know any better.

*Table showing Farm Produce Shipped to Market by Rail and Sea from Ventura County in 1894.*

Kind.	Packages.	Weight—Pounds.
Barley .....	77,670 sacks	8,921,535
Wheat .....	9,417 sacks	1,224,200
Corn .....	110,684 sacks	14,815,351
Beans of all kinds .....	274,252 sacks	21,940,124
Walnuts .....	6,928 sacks	484,937
Dried fruits .....	15,573 sacks	1,023,308
Green fruits .....	18,930 boxes	851,855
Oranges and lemons .....	24,175 boxes	-----
Honey .....	1,731 cases	207,700
Wool .....	2,375 bales	1,186,500
Eggs and butter .....	1,410 boxes	-----
Miscellaneous .....	2,753 pkgs	165,180

The above does not include produce hauled out of the county by teams of farmers and peddlers, of which no account can be obtained.

*Table showing Number of Fruit Trees Standing in Orchard Form in Ventura County, Bearing and Non-bearing. Young Trees in Nurseries not included.*

Variety.	Number of Growing Trees.
Apple .....	25,898
Apricot .....	123,639
Cherry .....	3,651
Fig .....	5,874
Olive* .....	20,065
Peach .....	19,801
Pear .....	21,114
Prune (assorted) .....	93,529
Lemon* .....	73,143
Orange* .....	55,193
Almond .....	14,452
Walnut .....	154,176

\*The above enumeration of olives, lemons, and oranges does not include trees used for ornamental purposes, nor in orchards of less than one acre.

*Table showing the Rainfall along the Coast of Ventura County, taken at Hueneme, during the past twenty-four years.*

Season of—	Rainfall, in Inches.	Season of—	Rainfall, in Inches.
1870-71 .....	9.00	1883-84 .....	24.42
1871-72 .....	5.17	1884-85 .....	8.38
1872-73 .....	17.25	1885-86 .....	19.60
1873-74 .....	15.00	1886-87 .....	7.68
1874-75 .....	15.25	1887-88 .....	14.95
1875-76 .....	21.00	1888-89 .....	17.64
1876-77 .....	4.62	1889-90 .....	22.75
1877-78 .....	20.64	1890-91 .....	12.10
1878-79 .....	9.62	1891-92 .....	10.51
1879-80 .....	15.29	1892-93 .....	18.93
1880-81 .....	14.75	1893-94 .....	5.98
1881-82 .....	7.84	Average rainfall for 24	
1882-83 .....	8.38	years .....	13.62

The rainfall in the interior and mountainous parts of the county is larger.

THOMAS H. MERRY,  
Secretary.



## REPORT

FROM THE

## THIRTY-SECOND DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Orange,

FOR THE YEAR 1894.

**Officers.**—J. E. Pleasants, President; C. A. Riggs, Secretary; G. A. Edgar, Treasurer.**Directors.**—M. A. Forster, Capistrano; Geo. B. Bixby, Orange; W. A. Beckett, Garden Grove; R. J. Blee, Santa Ana; Cash Harvey, Santa Ana; W. K. Robinson, Santa Ana; C. E. Parker, Santa Ana; J. E. Pleasants, Santa Ana.

SANTA ANA, December 31, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-second District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Balance on hand .....	\$89 82	
State appropriation .....	1,750 00	
Entrance to stakes and purses .....	4,216 25	
Gate and grand stand at Park .....	3,066 65	
Gate at Pavilion .....	517 75	
Rent of stalls and grounds .....	284 65	
Hay sold .....	308 15	
Exhibitors' tickets and fees .....	108 65	
Sundries .....	29 30	
Life membership balance .....	35 00	
Privileges .....	1,600 10	
Collections for American Association .....	27 65	
On Directors' note .....	2,500 00	
		<u>\$14,533 97</u>

## EXPENDITURES.

Purses and premiums .....	\$9,671 40
Paid American Association .....	27 65
Membership and fees, American Association .....	80 00
Membership, Occidental Association .....	30 00
Entrance refunded .....	20 00
Rent of office and Pavilion .....	135 00
Care of Park and expense of team .....	638 35
Repairs and labor at Park .....	223 08
Decorations and labor at Pavilion .....	161 67
Evening entertainments at Pavilion .....	50 00
Printing, advertising, and bill posting .....	367 33
Music .....	171 50
Entry clerks, ticket sellers, and guards .....	196 50
Starter and assistant for running races .....	40 00
Secretary's salary and office expenses .....	406 10
Interest account .....	607 82
Permanent improvements (well pipe, lumber, and carpenters) ..	1,056 18
Taxes, first half .....	34 85
Supplies and expenses, Poultry Department .....	49 79

Expense, canvasser for exhibits .....	\$18 00	
Electric lights and gas .....	33 60	
Plow .....	12 50	
Insurance .....	48 00	
On hand .....	454 65	
		\$14,533 97

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 32.

## (Orange County.)

Orange County contains 429,502 acres, and the assessed valuation of all property is \$10,060,190. The character of the soil ranges from that of true farming land and a broad fruit belt to foothill and mountain. The orange belt extends nearly the entire length of the county, and the raising of citrus fruits is one of the most important industries, from 600 to 1,000 carloads being shipped each year. Of the deciduous fruits, apricots, apples, peaches, pears, plums, and prunes are sent out of the county in large quantities, both green and dried. English walnuts are grown with such success that the acreage planted to this crop increases each year, there now probably being 100,000 trees in the district. Grapes, figs, and olives are also among the products of the fruit lands.

Barley and corn are the most important cereals, over 50,000 acres being annually seeded to barley, the resulting product being of a high grade, suitable for brewing purposes.

Three thousand acres were planted to sugar beets in 1894, and the acreage will be increased the coming season. The beets are rich in saccharine matter, and 11,000 tons were shipped from this county to the factory at Chino in 1894.

About \$50,000 worth of celery was shipped this season, principally to Eastern markets; and all kinds of vegetables are profitably raised, some 4,000 acres being devoted to potatoes.

There is still considerable grazing land in the vicinity, and horses, cattle, sheep, and hogs occupy those sections which are not valuable for other purposes.

The small cañons are dotted with apiaries, and the honey crop contributes its share towards the county's income.

On account of this diversity in soil, climate, and products, the district is comparatively free from the periods of depression and stagnation of business which must come to any section dependent on one or two products for its income. A dry year, as was that of 1894, may curtail the crops of barley or corn, but the fruit lands, being under an excellent system of irrigation, are independent of rains, and it would require a peculiar combination of disasters to financially cripple the county of Orange, which constitutes the Thirty-second Agricultural District of California.

CHARLES A. RIGGS,  
Secretary.

## REPORT

FROM THE

## THIRTY-THIRD DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of San Benito,

FOR THE YEAR 1894.

**Officers.**—J. A. Scholefield, President; R. P. Stephenson, Secretary; T. S. Hawkins, Treasurer.

**Directors.**—J. A. Scholefield, Hollister; Wm. Palmtag, Hollister; L. M. Ladd, Hollister; Thos. McCloskey, Hollister; R. S. Fallon, Hollister; Wm. Kelly, Hollister; J. T. Lowe, Hollister; P. E. G. Auzar, San Juan.

HOLLISTER, October 31, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-third District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Track and Pavilion tickets.....	\$1,421 10	
Sale of privileges.....	524 35	
Entrance fees.....	1,700 00	
Sale of horse-power.....	84 00	
Entrance due from 1893.....	20 00	
Sale of lamps.....	6 00	
Sale of hay.....	6 00	
State warrant.....	1,500 00	
Hack tickets.....	82 50	
		\$5,343 95
Assessment, December 27, 1893.....		900 00
		<u>\$6,243 95</u>

## EXPENDITURES.

Grangers' Union, merchandise.....	\$22 95
San Benito Advance, printing.....	32 10
Salary of Secretary to January 1, 1894.....	150 00
Stationery.....	13 75
Labor.....	21 60
Repairs.....	8 50
Smith & Chappel, supplies.....	23 89
West Coast Alliance, printing.....	17 00
Salinas Journal, printing.....	8 00
John T. Lowe, stationery.....	15 00
Superintendent of Pavilion, labor.....	40 00
Hay and straw.....	127 00
Lumber.....	71 51
Allanson & Sons, stationery.....	10 25
Sherman Bros., repairing.....	22 23
Carpenter work.....	98 75
Telegraphing.....	2 45
Rent of Pavilion, and bill posting.....	205 60
Music at Pavilion.....	75 00
Membership Occidental Pacing and Trotting Association.....	25 00
Breeder and Sportsman, advertising.....	36 00
Water.....	2 20
Hollister Free Lance, printing.....	50 00



San Benito Advance, printing.....	\$50 00
Tres Pinos Tribune, advertising.....	10 00
West Coast Alliance, advertising.....	10 00
Merchandise (hardware, etc.).....	100 65
Labor at Park and Pavilion.....	130 10
Rent of costumes.....	20 50
Race starter.....	90 00
Purses and premiums.....	4,738 00
Deficiency from 1893.....	304 09
	<u>\$6,532 12</u>

## STATEMENT OF SAN BENITO AGRICULTURAL ASSOCIATION, 1894.

Amount of expenditures during the year 1894, including deficiency of 1893.....	\$6,532 12
Amount of total receipts for the year 1894.....	<u>5,343 95</u>
Leaves a net loss for the year ending 1894.....	\$1,188 17
Balance of receipts, per assessment of December 27, 1893.....	<u>900 00</u>
Leaving a deficiency for the year.....	<u>\$288 17</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 33.

## (San Benito County.)

While not suffering from the effects of what might be termed a "hard year," yet San Benito County has not, since our last report, made the progressive strides that her soil, climate, and productions entitle her to. With the exception of the immediate vicinity of the Hollister Valley, as also the San Juan Valley, the season may be said to have been a failure. A great deal of grain was cut for hay, and in this product the county achieved a measurable degree of success. However, in one line, viz.: fruit-growing, the county is making rapid advancement. More interest in this pursuit is being taken every season, and researches conclusively prove that in apricot-growing this county is not surpassed by any other locality in the State.

The great need of this section is irrigation, and more attention is being directed to this want every day. At present an irrigation system is being formed for the San Juan Valley, which, if carried out, will turn that fertile locality into a garden-spot. Efforts are being made, also, to build a gigantic dam across the San Benito Creek, about five miles above Hollister. This, if successful, will irrigate some 7,000 or 8,000 acres in the immediate neighborhood of Hollister, and will be the means of making this valley one of the most favored spots in California.

A great deal of attention is being directed to the possibility of beet-growing in this section. The soil and climate are claimed by experts to be far superior to the Pajaro and Salinas Valleys for this pursuit. Another industry that is claiming attention is the production of cañaigne, and it is expected that before next season extensive experiments will have been made in this line.

In connection with the above I beg leave to make the suggestion that the State Agricultural Society should offer premiums—good, valuable ones—for exhibits in the above two products from localities that do not at present possess them. This premium business for canned fruits, preserves, etc., is being rapidly run into the ground, and it is about time that innovations were made, so that interest may be re-awakened in agricultural progress.

R. P. STEPHENSON,  
Secretary.

# REPORT

FROM THE

## THIRTY-FOURTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Lassen and Modoc,

FOR THE YEAR 1894.

**Officers.**—Wm. Brockman, President; C. E. Emerson, Secretary; D. Knoch, Treasurer.  
**Directors.**—Wm. Brockman, Susanville; A. L. Tunison, Susanville; E. Lauer, Alturas; E. Ferris, Long Valley; D. R. Brownell, Bieber; J. R. Perkins, Susanville; D. W. Jenks, Alturas; J. D. Byers, Janesville.

NOVEMBER 15, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-fourth District Agricultural Association submit this, their report of said association, for the year ending this date:

### RECEIPTS.

Cash on hand from 1893 .....	\$0 96
Subscription collections .....	1,454 50
Gate and door receipts .....	753 00
State aid .....	2,250 00
Entrance to races .....	1,217 50
Sales of lumber .....	32 00
Candy privilege (Pavilion) .....	5 00
Entrance to sweepstakes .....	11 30
Hack license .....	20 00
Collection on reinstatement of "Reno," for Eleventh District .....	16 50
Collection on reinstatement of "Laundress," for Eleventh Dist...	16 50
Collection on reinstatement of "Pinch of Snuff," for Eleventh District .....	6 50
	<hr/>
	\$5,786 76

### EXPENDITURES.

Music .....	\$250 00
Printing and advertising .....	167 35
Working and improving track .....	250 00
Directors' expenses .....	468 55
Labor, merchandise, and sundries .....	728 20
Purses .....	2,693 75
Premiums .....	1,187 75
Premium of 1893 paid on "Keystone" .....	25 00
Premium of 1893 paid on "Snuff Box" .....	15 00
Balance cash on hand .....	1 16
	<hr/>
	\$5,786 76

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 34.

(Lassen and Modoc Counties.)

*Topography.*—The Thirty-fourth Agricultural District comprises the counties of Modoc and Lassen, and embraces an area of some 10,000 square miles of surface, of a soil rarely, if at all, equaled for its variety, in that within the confines of this district are found rich valley lands, never failing to produce immense crops of all kinds of vegetables, cereals, and grasses; vast and magnificent stretches of tablelands, by nature covered with sagebrush, but which, by the touch of labor, are made to yield abundant and luxuriant crops of the most excellent fruits produced under the sun of a temperate zone, as well as the vegetables and grasses. The mountains, spurs of the grand old Sierra, yield immense growths of spruce, fir, pine, oak, and mahogany, which for size, quality, and quantity are surpassed nowhere. At present this vast timber area is only drawn on to supply home demands, but in the near future the snort of the iron horse trudging away with thousands of feet to supply those distant will surely be heard.

*Minerals.*—Gold, iron, coal, and copper are found in this district; the last three mentioned, under the present facilities for working and the poor transportation, are not mined for, but it is well to know that each of these are stored away in this district for the future use of man. Gold, on the other hand, has been mined for in this section for the last forty-five years, and in the deep ravines, gorges, and cañons through which small streams make their way, the faithful old pioneers and his descendants have dug hundreds of thousands of dollars of the yellow metal. This goes to show that where these placer mines are found—they surely come from some main source—not far distant lies some rich quartz ledges; still little has been done at quartz mining in the district. The famous Hayden Hill quartz mines have been yielding good pay ore for many years, and we soon expect to hear of a boom at the Hill, as a joint stock company has undertaken to tunnel under the hill, and will most likely strike it rich. The country needs experienced prospectors, men scientifically posted on quartz.

*Fruits.*—The fruit industry is rapidly gaining the lead, it having been proven that our foothills and tablelands produce fruits that for beauty, flavor, and size excel any other on the Pacific Coast. A poor man who has his land rights can take up a piece of sagebrush land in this district, and in a few years, by the proper application, can have an orchard of apples and prunes that will net him a handsome income annually. I speak more especially of these two fruits, as they are the most profitable, still any fruit of a temperate zone can be and is produced here. Almonds and walnuts are raised on a small scale, but with proper attention the English walnut and almond could be successfully raised. Black walnuts thrive wonderfully.

*Stock.*—It is so widely known that this district is noted for its stock-raising, that it is hardly worth while to dwell on this subject; suffice it to say, that countless herds roam over the plains and low hills, thriving on the luxuriant wild grasses, and that carload after carload of excellent beef is shipped out each season, to supply the demands of the outside world.



Nearly all our industries are only in their first stages, and will be developed to their full capacity when the country is tapped by a line of railroad from the Sacramento Valley to the Oregon coast-line, and this is one of the sure things of the future.

*Swine.*—The swine industry has made a perceptible advancement since our last report, and this fall several thousand head of swine will be shipped from the district, though there is room for much more progress.

*Grain.*—This season has produced an over supply of wheat, and it is a glut on the home market, while the present low prices below will not justify shipment.

*Education.*—The schools of this region are on a level with her sister regions, and are supplied with a corps of able teachers.

The agricultural department of the State Board, aided by the enterprise and well-directed efforts of the district associations, is doing great public good, by awakening enterprise and competition, and causing a feeling of confidence in the resources of the State; and it is to be hoped that the members of our next Legislature will not blight the industries thus awakened, but will again appropriate a reasonable amount with which to continue the good work.

C. E. EMERSON,  
Secretary.

## REPORT

FROM THE

## THIRTY-FIFTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Merced and Mariposa,

FOR THE YEAR 1894.

**Officers.**—N. S. Stockton, President; J. A. Mackenzie, Secretary; J. B. Olcese, Treasurer.  
**Directors.**—N. S. Stockton, Hornitos; C. M. McMasters, Hornitos; H. Nelson, Merced Falls; Thos. Harris, Merced; C. E. Fleming, Merced; J. B. Olcese, Merced; E. M. Stoddard, Merced; W. J. Howard, Mariposa.

MERCED, November 14, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-fifth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.	
Gate receipts during Fair .....	\$285 45
Privileges .....	177 50
Merced City Mills, donation .....	23 25
C. L. Mast, donation .....	4 00
N. S. Stockton and Mr. Buffum, donation .....	50 00
W. O. Moore, donation .....	20 00
J. A. MacKenzie, donation .....	55 00
Rent from Pavilion .....	50 00
Due from State .....	2,000 00
Rent due to Association for Pavilion .....	50 00
Overdraft on Treasurer .....	3 65
	<u>\$2,718 85</u>

EXPENDITURES.	
Premiums .....	\$837 25
Golden Gate Park Band .....	225 00
Merced Concert Band .....	170 00
E. Nolan, watchman .....	40 00
H. West, attendant Poultry Department .....	22 00
J. A. Robinson, attendant Fruit Department .....	10 00
George Addison, doorkeeper .....	20 00
J. L. Harper, decorating .....	7 50
C. M. French, hauling .....	11 00
N. H. Wilson, Superintendent .....	79 50
Mrs. Wilson, assistant .....	22 00
Bill posting .....	10 34
F. W. Read, printing signs .....	16 00
David Dowst, night watch .....	13 75
L. Gsvien, hauling .....	12 25
W. E. Landam, hauling .....	11 00
Kee Anderson, night watch .....	18 00
Electric Light and Gas Co. ....	111 85
Merced Star, printing and advertising .....	114 65
Merced Sun, advertising .....	12 25
Merced Express, advertising .....	8 00

Mariposa Gazette, advertising.....	\$25 00
E. M. Stoddard & Son, livery.....	27 00
Secretary's salary and office rent.....	200 00
Rent Fair grounds.....	100 00
Rent Pavilion grounds.....	50 00
Miss Smily, labor.....	10 50
Hartman & Bro., merchandise.....	10 40
J. Kocher, merchandise.....	21 40
R. Barcroft, labor and merchandise.....	115 10
Lenden Hooper, labor.....	11 50
Freight.....	7 50
M. Harden, labor.....	8 00
Will Smith, labor.....	14 50
M. H. Kugan, labor.....	16 25
James Kiefer, labor.....	13 75
A. M. Jones, labor.....	3 00
N. S. Stockton, expenses during Fair.....	34 25
C. W. McMasters, expenses during Fair.....	30 50
Merced Lumber Co., lumber.....	47 40
Charles Simon & Bro., merchandise.....	2 20
Mrs. McInerney, merchandise.....	14 23
E. T. Dixon, merchandise.....	19 10
F. M. Ordway, merchandise.....	2 30
George Atwood, labor.....	1 75
Messenger, stamps, and stationery.....	25 00
Insurance premium on Pavilion.....	100 00
W. B. Gahan, labor.....	1 50
Olcese & Garibaldi.....	34 38
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	\$2,718 85

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 35.

### (Mariposa and Merced Counties.)

Since the report, submitted in 1893, of Agricultural District No. 35, composed of Mariposa and Merced Counties, there have been many changes in the conditions of both counties, particularly in Merced. Land owned in large tracts has been placed in the hands of individuals and organized companies, and is now offered to settlers and colonists in small tracts and on easy terms, with a permanent water right, without a yearly rental, as formerly, per acre, giving to all who purchase lands under the Crocker-Huffman Canal ownership with water rights attached without further cost. Under these conditions we confidently expect a large amount of land to be sold and settled on in the near future.

In Mariposa County there has been but a small acreage planted to fruit since the last report, but some of the young orchards have come into bearing, showing an excellent quality of fruit grown without irrigation.

Olive oil was produced on Buffum & Stockton's ranch from six-year-old trees grown without irrigation. It was manufactured with very crude machinery, yet took third premium at the Midwinter Fair, showing that a good quality of olives can be grown here. There are thousands of acres of land that can be bought very cheap, and which are suitable for growing nearly all kinds of fruits.

The mining industry is just now attracting large numbers of prospectors. Several large mining properties have been sold, and the purchasers have put in large plants for working extensively. The prospects are that ere long Mariposa County will be classed as one of the largest producers of gold in the State.

N. S. STOCKTON,  
President.



## REPORT

FROM THE

## THIRTY-SIXTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Solano,

FOR THE YEAR 1894.

**Officers.**—B. F. Rush (Suisun), President; W. T. Kelley, Secretary; Jos. P. English, Treasurer.

**Directors.**—J. J. Luchsinger, Vallejo; V. V. Harrier, Vallejo; Henry Connolly, Vallejo; Joseph Wilson, Vallejo; J. P. Martin, Dixon; L. C. Ruble, Rio Vista; T. B. Montgomery, Benicia.

VALLEJO, October 30, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-sixth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
Cash in hands of Treasurer .....	\$74 50	
Received from the door at Pavilion .....	443 50	
Received from exhibitors' tickets at Pavilion .....	61 00	
Received from exhibitors' tickets at Fair Grounds .....	45 00	
Received from privileges at Pavilion .....	55 00	
Received from State appropriation .....	2,000 00	
		\$2,679 00
Received from all sources .....	\$2,679 00	
Total expenditures .....	2,668 65	
Balance on hand .....		<u>\$10 35</u>

EXPENDITURES.		
Preliminary expenses—expressage, printing, etc. ....	\$30 95	
Wm. Nichols, Assistant Superintendent of Track and Fair Grounds ..	15 00	
Isaac Sharp, for labor (carpenter) .....	35 00	
Jos. Edgcombe, Assistant Superintendent of Pavilion .....	35 00	
Lillie Perry, ticket clerk at Pavilion .....	12 50	
Miss M. Smith, entry clerk at Pavilion .....	22 50	
Miss N. Deming, entry clerk at Pavilion .....	22 50	
Jas. Owens, watchman at Fair Grounds .....	12 50	
Carlo Sateanno, labor at Pavilion .....	30 00	
F. Gorham, labor at Pavilion .....	21 00	
W. T. Kelley, traveling expenses .....	30 00	
Jos. R. English, Treasurer .....	25 00	
J. J. Luchsinger, Superintendent of Pavilion, sundries .....	38 50	
J. Van Dorn, labor at Pavilion .....	6 00	
R. Cassidy, labor at Pavilion .....	5 00	
A. Monetti, labor at Pavilion .....	10 00	
E. D. Blanchard, watchman at Pavilion .....	8 00	
T. D. Kelly, whitewashing at Fair Grounds .....	12 00	
J. Rhorer, band wagon .....	12 50	
C. Debolt, drayage .....	5 00	
I. Sharp, doorkeeper at Pavilion .....	20 00	

J. Brownlie, hardware.....	\$22 20
Geo. Hanscombe, electric wires, etc.....	6 00
F. Winchell, hardware.....	1 55
R. J. R. Aden, lumber.....	22 30
Bank exchange.....	1 50
J. J. Luchsinger, traveling expenses.....	7 50
Strobridge Lithograph Co., printing.....	33 00
Fair Publishing House, printing.....	16 25
Schmidt Lithograph Co., printing.....	2 75
Benicia New Era, advertising.....	5 00
J. F. Mooney, bill posting.....	2 00
H. McMillan, hay.....	225 00
Dixon Tribune, advertising.....	5 00
Vacaville Reporter, advertising.....	5 00
A. White, stationery.....	10 25
Robert Gore, straw.....	90 00
Mrs. M. White, bunting.....	2 70
Rio Vista River News, advertising.....	5 00
F. T. Winchell, hardware.....	14 85
Vallejo Daily Times, printing and advertising.....	32 00
W. T. Kelley, telephone, telegrams, etc.....	15 00
Vallejo Chronicle, printing and advertising.....	111 65
Thos. Smith, traveling expenses.....	13 00
Frank Denio, traveling expenses.....	15 00
Hall rent, Pavilion.....	100 00
W. T. Kelley, Secretary, salary.....	250 00
Gas, Pavilion.....	14 80
Independence Band music.....	310 00
W. Pennell, sign painting.....	12 50
José Monreal, police at Fair Grounds.....	15 00
L. Monreal, police at Fair Grounds.....	15 00
J. W. Kavanaugh, entry clerk at Fair Grounds.....	17 50
H. D. Lazelle, ticket clerk at Fair Grounds.....	17 50
H. Armstrong, Assistant Secretary.....	25 00
H. Kelly, gatekeeper.....	10 00
M. S. Wilds, gatekeeper.....	10 00
Wm. Talbot, gatekeeper.....	12 50
Chas. McSorley, gatekeeper.....	10 00
Ed. Longan, gatekeeper.....	15 00
B. Shouse, labor at Fair Grounds.....	25 00
P. Mella, labor at Fair Grounds.....	24 00
A. Morinoni, labor at Fair Grounds.....	16 00
R. Havard, labor at Fair Grounds.....	17 00
Solano Republican, advertising.....	5 00
Chas. McMillan, for damage to display.....	1 00
Bank exchange.....	90
Vallejo Water Co., water for Fair Grounds.....	20 00
Total general expenses of Fair.....	\$2,017 15
Premiums on live stock.....	165 50
Premiums on other than live stock.....	486 00
	<hr/>
	\$2,668 65

## REPORT

FROM THE

## THIRTY-SEVENTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of a portion of Santa Barbara County,

FOR THE YEAR 1894.

**Officers.**—A. Leslie (Los Alamos), President; C. B. Hughston (Lompoc), Secretary; Julius Klein (Lompoc), Treasurer.

**Directors.**—Con. Murphy, Santa Ynez; W. T. Lucas, Santa Maria; A. Lehmann, Lompoc; W. L. Talbott, Lompoc; Charles Bradley, Santa Maria; T. J. Williams, Santa Maria; H. N. Gifford, Stuart; A. Leslie, Los Alamos.

LOMPOC, October 26, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-seventh District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
Donation by Directors, 1893 .....	\$200 00	
Donation by Treasurer, 1893 .....	20 00	
Donations by premium holders, 1893 .....	4 00	
Gate receipts, 1894 .....	1,303 65	
Catalogue advertisements, 1894 .....	98 00	
State warrant for 1894 .....	1,500 00	
Entries .....	471 50	
Sale of privileges .....	121 95	
Sale of coops .....	7 00	
Sale of panels .....	3 15	
Fine on jockey .....	5 00	
Return tags .....	29 00	
To balance .....	121 73	
		<u>\$3,884 98</u>
EXPENDITURES.		
Premiums paid, 1894 .....	\$723 50	
Premium silver cups .....	23 85	
Salaries and labor .....	554 15	
Rents, supplies, and general expenses .....	962 66	
Purses paid .....	1,200 00	
Return tags (deposit), 1894 .....	29 00	
Overdraft, 1893 .....	376 92	
Expenses 1893 not reported .....	9 90	
Remitted fine on jockey, 1894 .....	5 00	
		<u>\$3,884 98</u>



## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 37.

(Comprising a portion of Santa Barbara County.)

Agricultural District No. 37 occupies the northern and northwestern section of Santa Barbara County, and in point of richness and productiveness stands equal to any portion of the State of California.

The Lompoc Valley, situated in the northwestern section of the district, produces grain, mustard, fruit, beans, and vegetables. This section is noted for its numerous dairies, besides cattle and sheep ranches. Horse-raising is carried on to a considerable extent. The yield of mustard averages from 15 to 37 sacks per acre of from 90 to 100 pounds to each sack, and the beans from 10 to 25 sacks of from 60 to 80 pounds to each sack; potatoes, 40 bushels to the acre, and grain from 20 to 35 bushels. The shipment of products from this valley is mostly made via Lompoc Landing, 12 miles distant from the town of Lompoc, or by way of Gaviota Landing, 25 miles south of Lompoc. The Pacific Coast Steamship Company's vessels land at these two points, but passengers are only taken on at Gaviota.

The Thirty-seventh Agricultural District is noted for its educational facilities, and school-houses of modern architecture stand out as ornaments to almost every school district. There is a union high school for the towns of Lompoc and Santa Maria, which is second to none in the State in mathematical grade.

The question of irrigation is now under consideration by the people of Lompoc Valley, and experiments have been made which have resulted so favorably as to induce Messrs. W. S. McKay and W. I. Nichols to procure an appropriation of 5,000 inches of water, to be taken from the Santa Ynez River, to be used for agricultural, mechanical, mining, and domestic purposes. Geo. H. Long, owner of a large ranch in the lower valley, has already sunk a well and will hereafter irrigate the farming lands on his place. He will build a small creamery, and if it results successfully will conduct the business on a larger scale. The citizens of this valley are strongly in favor of having a creamery and cheese factory, and the probabilities are, that in the ensuing year this valley will have the said creamery in good running order, and that on almost every ranch of 40 acres or more there will be found from 10 to 15 acres of alfalfa, with sufficient cows to earn enough money for each farmer to supply the individual wants, and from this means the proposed new creamery and cheese factory will receive abundant support to keep it running the year round. The people of this valley are noted for their enterprise and thriftiness.

The Pacific Coast Railway Company (narrow gauge) is negotiating for the right of way from Los Alamos to Lompoc, to run their road through this valley to connect with the Southern Pacific Railway at the mouth of the Santa Ynez River. The Southern Pacific Railway is rapidly being built, and before another year is out will tap this section. With two railroads and with ample steamship facilities there is every indication that this valley will soon be known throughout the United States.

To the southeast and adjacent to this valley is that called Santa Rita. These two valleys combined comprise an area of 20 miles square, including the hill and mesa lands bordering on either side, but properly

classed with the said valleys, because of the smaller tributaries reaching out in every direction. The Santa Rita Valley is composed of many small farms; grain and fruit raising are the principal industries. Directly north is the Guadalupe section, where dairying is the principal pursuit, and thousands of boxes of butter are shipped from there annually. They also have an extensive creamery, and the dairymen realize immediate profits from the sale of milk.

The Santa Maria Valley is the tributary and outlet from the Guadalupe section. Here they raise pears, prunes, plums, apricots, peaches, and nectarines, besides apples and grapes, which are noted for their point of excellence, while walnuts, almonds, oranges, lemons, figs, and olives are grown with more or less success. Fruit farms are increasing with each year, and soon this large valley will be one entire orchard. The town of Santa Maria is composed of several fine stores, hotels, churches, and residences. Its roads are very fine and level.

To the south lies that valley where the famous cottonwood tree stood years ago, and from whence is derived the name of Los Alamos. Here is a valley which for cattle-raising, dairying, farming, or fruit-raising cannot be excelled in the district. Large bands of cattle are still kept in the neighborhood. Many dairies in the foothills contribute large shipments of butter for the San Francisco market. The only great drawback to this section is that it is surrounded by many large, unsettled ranches, but the time is not far distant when these large land holdings will be divided up into small farms of from 40 to 160 acres; then this section will become one of the most prosperous in the county of Santa Barbara. The town of Los Alamos is situated about midway in this valley, and is composed of a prosperous community.

The next valley to the south is the Santa Ynez. Here the culture of olives is largely engaged in; fruit and grapes, besides grain of all kinds, are also raised. The climate is considered very healthful, and many people who are invalids go there in search of health. This valley derives its name from the old mission called Santa Ynez. The town of Santa Ynez is situated on a small bluff, and overlooks a portion of the valley. It has a fine hotel, several large stores, and other business houses; its streets are well kept up. The towns of Ballard and Los Olivos lie directly north of this place, each containing a hotel, a few stores, and residences.

The eastern portion of the district has for its means of shipping freight, the Pacific Coast Railway; the western section, the Pacific Coast Steamship Company.

There is not a month in the year that does not find many kinds of crops growing profusely, and flowers are always in bloom. The horticulturist, the farmer, the dairyman, the stock-raiser, and the grower of fruit can find here a field in which he may choose his occupation, needing to consult only his taste and means, for all can be followed with profit and advantage. The peculiar location of this district, together with the well-known course of the warm ocean-currents, justifies us in claiming that we have here neither the cold of winter nor the heat of summer, in the sense those terms are used in most parts of the United States. Land is cheap, considering the products, resources, and climate of the district. The principal agricultural crops are mustard, beans, barley, wheat, corn, oats, potatoes, and onions, vast amounts of which are shipped out every year, and thousands of tons of pumpkins, beets,

and carrots are raised for stock feed. In many instances, the proceeds of a single crop will pay the original cost of the land, which can be bought for from \$10 to \$150 per acre, depending on character, location, etc. The district is about one quarter settled and developed, and there is probably no place in the world that presents better opportunities, to-day, for the home-seeker of moderate means, who is ambitious to found a new home in a congenial climate, where all the advantages of civilization and society are combined with the very best opportunities for material prosperity.

The gathering of statistics is a hard matter, owing to the reticence of the railway and steamship companies.

C. B. HUGHSTON,  
Secretary.



## REPORT

FROM THE

## THIRTY-EIGHTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Stanislaus,

FOR THE YEAR 1894.

**Officers.**—A. L. Cressey, President; L. B. Walthall, Secretary; F. A. Cressey, Treasurer.  
**Directors.**—A. L. Cressey, Modesto; J. W. Davison, Modesto; A. V. Stuart, Oakdale; L. A. Richards, Westley; V. E. Bangs, Modesto; Chas. Tulloch, Knight's Ferry; Guy Kilburn, Newman; J. C. Needham, Modesto.

MODESTO, November 10, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-eighth District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

From State appropriation (to be received) .....		\$2,000 00
From sale of privileges .....	\$124 81	
From admissions to Park (2 days only) .....	149 50	
From sale of exhibitors' tickets, Park .....	24 00	
From commission on pools sold .....	30 00	
From admissions to Pavilion and sale of exhibitors' tickets .....	58 85	
From advertisements in premium list .....	97 50	
From entries to races .....	118 25	
		602 91
From overdraft at Modesto Bank .....		13 28
		<u>\$2,616 19</u>

## EXPENDITURES.

Cash paid for stamps and wrappers .....	\$10 00
Paid for printing 500 premium lists .....	45 00
B. F. Hutchins, labor .....	1 50
E. F. Hutchins, assistant entry clerk .....	10 00
J. S. Baier, leader Modesto Brass Band .....	100 00
C. S. Abbott, two days in charge of pools .....	8 00
Carl Zander, two days pool clerk .....	8 00
G. H. Blacker, five days assisting at Pavilion .....	16 50
T. D. Spencer, printing advertisements and blanks .....	24 50
A. N. Brown, two days as marshal .....	6 00
C. Maze, Jr., hall rent .....	25 00
E. A. Hamilton, express wagon .....	9 50
T. M. Walthall, entry clerk at Park .....	4 00
D. D. Christman, drayage .....	1 25
L. B. Walthall, salary as Secretary, \$150; telegrams, expressage, etc., paid, \$2 50 .....	152 50
Meyer & Latz, ribbon .....	1 10
Herald Publishing Co., advertising and blanks .....	19 60
C. W. Perley, stationery .....	1 20
W. E. Daunt, labor posting bills .....	2 00
Wood & Turner, gasoline .....	9 00

Breeder and Sportsman, subscription .....	\$10 00	
Breeder and Sportsman, advertising .....	6 00	
Modesto Gas Co., gas at Pavilion .....	6 90	
C. M. Maze, feed and straw and keeping gate .....	62 00	
Awards for exhibits .....	328 00	
T. B. Tones, poolseller .....	8 00	
Chess Hall, cashier to poolseller .....	8 00	
Rent of stand and tables for pools .....	50	
Rent of Park .....	600 00	
Purses paid for races .....	340 00	
Overdraft from Modesto Bank, 1893 .....	596 74	
Interest on overdraft, 1893 and 1894 .....	188 00	
		\$2,616 19

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 38.

### (Stanislaus County.)

Stanislaus County has felt the paralyzing effects of the "hard times." Our crops slightly less, prices in the markets greatly depressed, transportation charges unchanged—resulting in an unprofitable season. But the lessons of economy learned are invaluable, and will be lasting to Californians, with their prodigal ways and habits.

Our central location and nearness to tide-water enable us to market our products below the average coast county. River steamers ply one third of the year through our very midst. And with more diversified products our future is particularly encouraging.

The larger land owners must subdivide their holdings. The more subdivisions the more small farmers and families, the more schools, churches, seminaries, factories, packing-houses, and certainly more civilization, population, and general prosperity. The home consumers will be multiplied, and home markets, the best in the world, will be enlarged.

The soil of the county varies greatly; that on the great "West Side" being a rich, deep alluvial, the result of ages of washings from the adjacent hills. This land produced vast amounts of wild hay, alfalfa, and other grasses that often were gathered when matured by simply raking them up. And now that section that is irrigated by the San Joaquin and Kings River Canal to-day produces incredible amounts of that fine fodder plant, alfalfa, which sells on the ground at \$4 to \$6 per ton.

Industries in this section are becoming more numerous, small holdings are increasing fast, and a flourishing community is building up. With horses of improved breeds; cattle that are noted as producers of butter and cheese; jacks of the old Spanish strain; sheep from the very flocks of the Government French Merinos; with that smaller, but no less profitable calling, poultry of the best breeds, this section bids fair to become one of the most successful and wealthy in the State.

The soil of the central part of the county is a sandy loam, easily and profitably worked. Experimental orchards are proving its great adaptability for producing fruits without irrigation, and that, too, where the rainfall, limited to six or seven months, will not average over 12 inches. As instancing this great fertility, we call attention to the orchard of C. N. Whitmore, near Ceres, where fruits have this year been marketed from trees that have not had a drop of water on them.

Along the east the land changes and varies: some rolling, strong soil—adobe and gravel—with but little waste. Wheat is the principal production. Oranges and lemons thrive wonderfully. At Knight's Ferry, La Grange, Oakdale, and along the rivers these citrus fruits flourish, and are beyond the experimental stage; they are now recognized products of that section, successful and profitable.

Near Knight's Ferry, the great Red Mountain Vineyard, owned by H. R. Schell, is located. Some of the best ports and sherries are produced here. The products are exported principally to Albany, N. Y., where a ready market has been built up.

Mr. Ora McHenry, President of the First National Bank of Modesto, has, near town, in the midst of the "sand plains," 320 acres of apricots, figs, pears, and Muscat grapes, which are irrigated with water raised by a single engine. He has been compelled to erect, at great expense, a drying-house, to care for the products of his orchard and of his immediate neighbors. The result of his experiment is spurring others to a similar work.

Just outside of Modesto, in the orchards of Mr. Geer and Mrs. Coldwell, can be seen olive, fig, and peach trees bearing magnificently without irrigation, but growing in soil that is very thoroughly tilled.

Other orchards, such as those of A. V. Stuart, Paul Arata, Thomas Richardson, and Paul Brickett, near Oakdale; of Asa Collins, K. Voght, and The Falls View, at Knight's Ferry; of John Gunn, George R. Stuart, J. B. Crow's estate, and the Newman Vineyard Co., besides numerous smaller ones all over the county, establish the possibilities of our greatness and undeveloped resources along horticultural lines, and invite investment by the frugal and cautious.

Among some of our products for the past year are the following:

Wheat .....	275,000 acres.	2,200,000 bushels.
Corn .....	300 acres.	9,000 bushels.
Barley .....	30,000 acres.	450,000 bushels.
Oats .....	250 acres.	5,000 bushels.
Potatoes .....	500 acres.	25,000 bushels.
Hay .....	7,000 acres.	19,000 tons.

While these have been our principal products, wool, wine, hogs, sheep, mules, and jacks have been other products for export. It seems singular to ship hogs by the car or train load to San Francisco, and then bring back bacon, lard, and hams in the same cars and by the same quantity almost.

Gold mining in the eastern part of the county is still kept up, and proves, during the present "hard" year, a great boon to the unemployed.

Our great irrigation schemes, known as the Modesto Irrigation District Canal, covering 83,867 acres of level land, and the Turlock District, embracing 139,510 acres of land in our county, both taking water from our great dam that cost half a million dollars, are approaching completion, slowly, under what is known as the Wright Law. When this vast territory is reached by the waters that are now going to waste, and the thousands of people necessary to work it all are once established here, we can hardly realize the possibilities of the county. Compare this territory to be irrigated, with its central location, great climate, and accessibility to tide-water markets, to the same number of acres in Rhode Island or any New England State, with their climate and surroundings.



As to the general success of county fairs: It seems from our local experience that some improvement could be made. Too much attention and money are paid to racing; too little to all other exhibits. The State Board of Agriculture might supervise more rigidly the county fairs; should assist in making-up premium lists; also, should send out instructions to local secretaries early in the season. Free competition, with small admission fees, would be popular—would encourage the young in all the industries of the household and the farm, and I believe would result in success. The assistance from the State is invaluable. It is small for the whole State, but enough for the county. If withdrawn, the benefits that accrue to our people by meeting yearly and comparing methods in vogue and products raised, would all be lost.

Respectfully submitted.

L. B. WALTHALL,  
Secretary.

## REPORT

FROM THE

## THIRTY-NINTH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Calaveras,

FOR THE YEAR 1894.

**Officers.**—Geo. K. Fox, President; Henry Wesson, Secretary; C. M. Whitlock, Treasurer.  
**Directors.**—Geo. K. Fox, Angels Camp; Thos. Fullen, Angels Camp; E. B. Moore, Copperopolis; E. J. Borger, Valley Spring; C. W. Getchell, San Andreas; C. F. Masterson, San Andreas; Alex. Brown, Milton; H. R. Greeve, West Point.

SAN ANDREAS, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-ninth District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

From donations .....	\$3,017 50	
From single admission tickets .....	659 00	
From Pavilion tickets .....	348 85	
From grand stand tickets .....	23 25	
From season tickets .....	50 00	
From privileges .....	793 82	
From entrance money .....	717 20	
From sales of hay and grain .....	68 85	
From State warrant (to be paid) .....	1,500 00	
Overdrawn on Treasurer .....	2,160 03	
		<u>\$9,338 50</u>

## EXPENDITURES.

Premiums and purses paid .....	\$3,043 50	
Printing and advertising .....	300 00	
Music .....	265 00	
Pavilion and Park rent .....	250 00	
Insurance .....	30 00	
Material, lumber, etc. ....	2,000 00	
Labor .....	3,000 00	
Secretary and Treasurer, salary .....	250 00	
Incidental expenditures .....	200 00	
		<u>\$9,338 50</u>

## RECAPITULATION.

Total receipts .....	\$7,178 47	
Total expenditures .....	9,338 50	
Overdrawn on Treasurer .....		<u>\$2,160 03</u>

Since our report for 1893 the Association has permanently located the holding of the Annual Fair at San Andreas, the county seat, where it has during the last year built a first-class track, with all necessary stalls, stock sheds, grand stand, etc.

The Association had a most satisfactory meeting in October, during the Fair.

The Pavilion exhibits gave universal satisfaction, showing the resources of the district in better shape than ever before attempted, encouraging a more extended effort for 1895.

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## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 39.

### (Calaveras County.)

On the western slope of the Sierra Nevada Mountains, nestled among the foothills and extending into the great valley of the San Joaquin, is the county of Calaveras. Its situation, midway between the north and south boundaries, renders it among the desirable locations in this State. Centrally situated, easy of access, and a soil and climate changing with its varying altitude, from the average temperature of the Sacramento and San Joaquin Valleys to that of the snow-lined mountain valleys, Calaveras presents every attraction to the home-seeker in quest of health and a productive soil. In area it comprises over 1,000 square miles, being about equal in size to the State of Rhode Island. The northwest corner of the county is 36 miles southeast from Sacramento City, while the southwest corner is within 4 miles of being in a direct line east from San Francisco.

The Mokelumne River, on the north, divides the county from Amador, while the Stanislaus River separates the county from Tuolumne on the south. The extreme northeast corner joins Alpine. On the west San Joaquin and Stanislaus Counties join Calaveras, making Calaveras almost a triangle, 54 miles in length northeast and southwest, and 32 miles across its western border.

All the deciduous fruits thrive well in the county, and in the citrus belt, which embraces the northwestern end of the county, the orange, the lemon, the citron, and the olive are found thriving in places with all the luxuriance of their native lands. Citrus fruits have not been grown extensively up to the present time, but where tried they seem to be a great success. All the other deciduous fruits grow in the county. The peach is one of the most successful. All persons who have tasted the delicate mountain peach acknowledge its superior flavor. Pears grow to an immense size. Apricots and plums grow to great perfection. Nectarines thrive well. Prunes of all kinds mature well in their varied colors, and are dried with very little trouble. The Japanese persimmon is thrifty and prolific.

Deep quartz mines are being developed more and more, as science gets to know more of the wealth hidden far below the surface. Besides the gold and silver hidden away in the bowels of the earth, there are known to exist vast bodies of copper ore, iron, cinnabar, limestone, marble, granite, and slate. The extent of these deposits is beyond calculation. Copper is now extensively worked. Marble shows on the surface in inexhaustible quantities. This marble is now almost exclusively used for local purposes, and is found to be of the finest quality.

HENRY WESSON,  
Secretary.



## REPORT

FROM THE

## FORTIETH DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Yolo and Colusa,

FOR THE YEAR 1894.

**Officers.**—L. B. Adams, President ; C. M. Barney, Secretary ; C. F. Thomas, Treasurer.  
**Directors.**—L. B. Adams, Woodland ; T. S. Spaulding, Woodland ; J. B. Griffin, Winters ;  
 G. W. Woodard, Yolo ; W. B. Gibson, Woodland ; E. M. Houx, Maxwell ; J. McElroy,  
 College City ; D. H. Arnold, Colusa.

WOODLAND, December 26, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Fortieth District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
Cash on hand from 1893.....	\$460 80	
Privileges .....	2,755 25	
Donations .....	289 50	
Gate receipts .....	1,999 75	
Entrance money .....	8,052 50	
State appropriation .....	2,500 00	
		<u>\$16,057 80</u>
EXPENDITURES.		
Paid in purses.....	\$11,710 00	
Paid Yolo Agricultural Association.....	460 80	
Paid for music .....	175 00	
Paid for Secretary's salary .....	300 00	
Paid for premiums .....	865 50	
Paid for incidental expenses .....	108 08	
Paid National Association, membership dues.....	75 00	
Paid for advertising and printing .....	294 70	
Paid for hay, straw, and wood .....	395 74	
Paid for rent of grounds and buildings .....	510 00	
Paid for labor .....	528 50	
Cash to balance .....	634 48	
		<u>\$16,057 80</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 40.

(Yolo and Colusa Counties.)

## YOLO COUNTY.

Yolo County people are abundantly proud of their county, and with good reason. Every section of this great State possesses some peculiar environment—some distinguishing climatic or topographical characteristic. Of Yolo it may be said that it embraces in happy combination nearly all the natural features that various other counties boast, and all in a superior degree. Inland just far enough to be fogless and dry, and near enough to the coast to receive its daily baptism of the sea's cooling breeze, this county enjoys a climate that is unexcelled as a stimulus to vegetable and animal life. And so, it is broadly claimed, that when you pass the borders of Yolo County, whether to the north, to the south, to the east, or to the west, you travel away from the best conditions obtainable in all the "Golden West" for the culture of fruits and flowers, clover and grain, poultry and stock. What we mean is that between the heat and aridness of the upper Sacramento Valley, and the fog and humidity of the Bay counties, Yolo occupies a grateful climatic medium.

Her second advantage is the great fertility of the soil, possessing a various adaptability. On the east the tortuous Sacramento River defines her boundary a distance of seventy-five miles. The bottoms of the Nile are not richer than these lowlands. Broomcorn, peanuts, hops, clover—all manner of vegetables and fruit trees grow here with tropical luxuriance. With an adequate system of levees and drainage, these Yolo river lands will some day be made prodigiously productive.

On the uplands, around Woodland, Davisville, and Blacks, along the borders of those beautiful streams, Putah and Cache Creeks, are hundreds of thousands of acres of the finest lands in California for fruit culture. This soil is a rich alluvial wash, with practically no hardpan under it. The writer has studied the formation of the soil in excavations ten and twenty feet deep, and has seen removed from these levels sod as rich as garden mold. Her soil is not of a heavy adobe tendency. Unusually strong in vegetable nutriment, it is yet friable and cultivated with comparative ease. It would be difficult to say what sort of vegetation would not flourish in such a soil and climate. We have proved that this is the home of the grapevine. Our raisin vineyards are not only among the largest in area, but the most productive per acre. Experience has demonstrated that our Emperor, Tokay, and Cornichon grapes are superior as to color and size of clusters, and are remarkably good shippers. The late R. B. Blowers often said that there was one hundred square miles of fruit land around Woodland that can beat the earth growing pears, prunes, and olives. Apricots and almonds thrive here as though indigenous to the soil. From Dunnigan to Davisville, from Knight's Landing to Winters, the orange and the lemon tree may be found flourishing and bearing abundantly without shelter or more than ordinary care.

Farther west along the foothills and up the Capay Valley is the earliest fruit district of California. Peaches and apricots in May and

early June are annually shipped to Eastern markets from Winters, bringing marvelous prices.

The third great resource in nature's bounty enjoyed by Yolo lies in a copious rainfall. Droughts and crop failures are unknown with us. Seventeen inches of rainfall is the average for twenty years. But aside from this, Yolo possesses facilities for building up an irrigation system that no other portion of the State enjoys. Cache Creek, which flows down the Capay Valley and across the county until it is lost in the tules of the Sacramento River, is the only outlet of Clear Lake, the great Como of California, a magnificent body of water 30 miles long and from 2 to 8 miles wide. This is the splendid reservoir nature has provided for Yolo's irrigation system. Here lies also sleeping the possibilities of grand electrical enterprises; for there is power enough running to waste in the waters that rapidly fall down Cache Creek Cañon to drive all the mills and illuminate all the towns in the county.

The Moore Irrigation Company, with its lateral and distributing ditches, covers a rich country surrounding Woodland, and thousands of acres in clover, as a result, illustrate what this county might be if an adequate system of irrigation were furnished the people. The Moore estate is tied up by the will of the late James Moore. The dam was washed away about four years ago. The property is but meagerly answering the demands upon it. Considerable agitation has been going on among the people recently over the proposition of forming a district under the Wright Act, and of developing our irrigation possibilities by public organization. Nothing practical has been accomplished as yet in this direction. Private capital would, we think, find profitable investment in this enterprise. It is understood the Moore heirs are willing to sell this property.

Yolo County has gained a widespread fame for the number of its speedy trotters and pacers that it has produced. Many of the prominent horsemen of this State have testified to a belief that there is in the climate as well as in our nutritious grasses the secret of the success of our local horse-breeders. The late George Woodard firmly believed that there was but one Yolo County for the breeding and raising of fine-bred horses.

Woodland is the county seat. It is a rich and prosperous community, possessing four banks, four or five good hotels, three daily newspapers, paved streets, electric lights, street cars, and all the attractions in beautiful homes, good schools, and plenty of churches that make a city a desirable place of residence. It has a population of about 4,000.

#### COLUSA COUNTY.

The south line of Colusa County is about 40 miles north of Sacramento City, corresponding very nearly with the thirty-ninth degree of north latitude. The county is  $31\frac{1}{2}$  miles from north to south and about 40 miles from east to west, and contains about 1,300 square miles. Of this area about 540 square miles lies in the Sacramento Valley proper, all of which is tillable and irrigable. There are perhaps 30 square miles in the valleys of the foothills, both tillable and irrigable. In the hills there are in the neighborhood of 150 square miles tillable to cereal crops, and much more capable of producing vines and fruit. It may be estimated that there are not over 300 square miles so broken and rough



or so poor as not some day to be brought under cultivation. For the 540 square miles set down as irrigable there is the greatest abundance of cheap water.

Colusa County produces successfully all the semi-tropical fruits. Its oranges take the first place for quality; its raisins sell for a higher price than any other; its peaches and prunes are surprises even to growers elsewhere. It has been a great county for cereals; but a farmer here can make his own choosing as to products.

The county lies partly on either side of the Sacramento River, on which float barges carrying 1,000 tons of freight in tow of a small steamer, and hence no freight monopoly can be obtained. It is almost the same as by the ship's side.

On the upper waters of the Sacramento there are vast areas of fine timber, and every improvement on the upper river gives Colusa cheaper lumber.

Our railroad from San Francisco to Portland, Oregon, runs through the center of the county, and the Colusa and Lake road runs from Colusa, the county seat, west into the foothills. There is no section of the State better situated for the transportation of persons and freight.

An inexhaustible supply of building-stone, now being worked, and said to be the very best on the coast, is on the line of the latter road. Salt, purer than any from Liverpool, is also made on the line of this road. The several mineral springs on the western border of the county are unsurpassed in medicinal properties.

The county produces gold, quicksilver, copper, chrome, and other metals. It has large beds of limestone and hydraulic cement as yet unworked. There is natural gas and every indication of oil all along the foothills.

Tens of thousands of horse-power can be generated by the water-power on the western border, and transmitted by electric current to the valley.

The climate is about the same as that of Southern California and other parts of the State producing semi-tropical fruits. That it is healthful is shown by the fact that the town of Colusa, laid out in 1850, has never had an epidemic, and its death-rates have been lower than any place in the State, as shown by the record.

Large wheat-farming has been profitable, small wheat-farming not; hence, large farming has been the rule, and a sparse population has been the result. The inclination now is to break up the large holdings, and land may be had on favorable terms.

C. M. BARNEY,  
Secretary.

## REPORT

FROM THE

## FORTY-FIRST DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Del Norte,

FOR THE YEAR 1894.

**Officers.**—Thomas Duffy, President; D. W. Finch, Secretary; William Westbrook, Treasurer.

**Directors.**—W. H. Woodbury, Crescent City; R. W. Miller, Crescent City; Thos. J. F. Berry, Crescent City; Thos. Duffy, Smith River; F. P. Frame, Smith River; Chas. A. Trefethen, Smith River; H. H. Smith, Smith River; Henry Westbrook, Smith River.

SMITH RIVER, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Forty-first District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Entrances to races.....	\$297 50
Membership fees.....	5 00
Sale of privileges.....	231 50
Gate receipts.....	689 35
Net receipts from Association ball.....	4 50
State warrant (to be received).....	1,500 00
	<u>\$2,727 85</u>

## EXPENDITURES.

Hobbs, Wall & Co., for lumber, etc.....	\$65 97
Nathan McVay, for sprinkling wagon.....	35 00
A. J. Huffman, for labor.....	76 75
Tryon & Co., for hydraulic ram and pipe.....	63 30
Wm. Westbrook, for store bill.....	61 83
Purses.....	925 00
Bram & Wilson, for meals for Band boys.....	25 00
L. Applegate, for help in premium department.....	1 50
Robt. Toms, for help in premium department.....	2 00
M. Dunlay, for posting programmes.....	3 00
J. H. McVay, for help in premium department.....	8 00
J. L. Childs, for printing and advertising.....	59 05
Geo. Roy, for keeping gate.....	10 00
J. A. J. McVay, for services as watchman.....	12 50
Wm. Davis, for services as marshal.....	12 00
J. G. Anthony, for services as ticket agent.....	10 00
A. J. Huffman, for decorating Pavilion.....	20 00
Del Norte Record, for printing and advertising.....	23 85
Crescent City Brass Band, for music.....	180 00
L. McLarren, for ribbon.....	1 10
Secretary's salary.....	150 00
John McIndier, for help in premium department.....	4 50
Thos. Duffy, for rent.....	150 00
Miss A. Edwards, for ribbon and badges.....	3 00
West Duly, for stage fare for Band boys.....	25 00
Treasurer's salary.....	100 00
Premiums.....	699 50
	<u>\$2,727 85</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 41.

## (Del Norte County.)

Del Norte County is the northwestern county of the State of California. It contains a population of about 3,500, who are employed, principally, in the manufacture of lumber, shakes, shingles, boxes, and leather; dairying and farming; fishing, packing, and canning salmon, with the usual quota of professional and business men.

*Statistics, 1894.*—Area of county, 1,546 square miles, or 989,000 acres; unentered Government land, about 700,000 acres, mostly mountainous; lands assessed, 126,816 acres; total assessed valuation of property, \$2,204,447; rate of taxation, State and county, \$1 90; miles of railroad, 20, not incorporated; value of county property, \$19,000; number of schools, 11; teachers employed, 15; school children, 578.

*Crescent City* is the county seat of Del Norte County. It is an incorporated city of about 1,500 population, located on Crescent City Bay—a natural, but unimproved harbor on the Pacific coast, 280 miles north of San Francisco.

*Smith River* is a pretty little village of about 300 population, situated in the beautiful Smith River Valley, 14 miles north of Crescent City. This valley is the most important dairy and farming section in the county, and furnishes the principal support to the little village bearing its name. The Del Norte Agricultural District fair grounds are located one mile from the village of Smith River. We held our second annual agricultural fair on these grounds in September, 1894. The live stock, agricultural, horticultural, viticultural, culinary, fine arts, and needle work, juvenile, and mechanical exhibits were large and varied in 1893, and a lively interest was manifested in the fair; but this year we notice a decided improvement in each line of exhibits. The fair is proving itself a great incentive to our people, and causing a general awakening and commendable and energetic efforts in every line of industry.

The Crescent Creamery Company's plant is situated near the village of Smith River. This plant has a capacity for handling 40,000 pounds of milk daily. In 1893 the company purchased \$19,195 14 worth of milk, which they manufactured into butter, feeding the skimmed milk to hogs; this year they have purchased a much larger amount. Arrangements are now being perfected to construct and equip two other creameries during the coming season.

*Gasquet* is a pleasant and very healthful summer resort, situated 18 miles east of Crescent City. Elk Valley, Lake Earl, and the Klamath country are rich agricultural, dairy, and timber localities, and the natural resources of these localities are but partially developed.

*The Climate* of Del Norte County, for comfort and healthfulness, compares favorably with that of any in the State, or of any State in the Union. In summer the heat is not sufficient to relax and debilitate the system, and in winter the temperature is not low enough to produce pulmonary complications. The average rainfall is between 60 and 70 inches, raining almost every month in the year.

*Agriculture and Stock.*—In Del Norte County are nestled numerous small but fertile valleys, which are gradually becoming populated by an intelligent and industrious class of farmers, who are already making considerable progress in an agricultural line; raising an abundance of hay, barley, wheat, oats, and vegetables for local demand. All of our industries are comparatively in their infancy. Our agricultural prod-



ucts could easily be increased 500 per cent, if all of our farming land were industriously and properly tilled. For proof of this assertion: there is but very little of our dairying land sown to red clover. A few persons, who have tried the red clover by way of experiment, have demonstrated the fact that the same amount of land which without the red clover pastured one cow would feed five cows better after it was properly seeded with it. It is not our best farms that are bringing in the most income to their possessors; but all of our intelligent and industrious farmers are making money, even though they do not possess the broad fields that their more fortunate, but less industrious, neighbors have the good luck to possess. The large amount of butter made is shipped to the San Francisco market, and Del Norte butter always brings the highest prices.

*Horticulture.*—This method of deriving a livelihood from the soil will eventually become one of the leading industries in Del Norte County. Most of the fruits common to the temperate zone grow here to perfection, apples, pears, prunes, plums, and cherries taking the lead, and the State produces no finer peaches and apricots than are to be found in some localities in the county. Over 3,000 fruit trees were shipped to Del Norte County last December, besides a large number of small fruit plants, all of which do well here.

*Salable Land.*—The larger and better improved farms in Del Norte County can only be purchased for good round prices, but there are many "ranches," consisting of 160 acres each, lying along the creek bottoms and side hills, which can be bought for from \$500 to \$1,000. These places each have from 20 to 50 acres of bottom land upon them, and the remainder of the 160 acres is hill land, and both the bottom and hill lands are of the best quality, and with proper cultivation will produce an abundant crop of anything in the agricultural or horticultural line which grows in this latitude.

*Manufactures.*—There are three sawmills, a box factory, two shingle and shake mills, and two salmon canneries—one on the Klamath and one on Smith River—besides a tannery, creamery, and a pork and bacon packing establishment. Two of the sawmills are each turning out about 9,000,000 feet of lumber per annum; the one completed during the present year uses the band saw, and everything about it is of the most modern style.

*Redwood Belt.*—Del Norte County's redwood belt contains more than 192,000 acres. The redwood tree is the monarch of the forest. It is not rare in this county to see its trunk 12 to 18 feet in diameter and its branches 300 feet high. J. A. McDonald, foreman of the logging-camp of the C. C. M. & L. Co., informs us that he has taken from a 120-acre tract of the company's land 20,000,000 feet of lumber, and that there is considerable good timber left standing. This county has also a great deal of valuable fir, spruce, cedar, and hemlock timber.

*Mineral Resources.*—Del Norte is rich in minerals. Gold, copper, chrome iron, cinnabar, and coal are found throughout the county in various localities. All of these mines have been worked, but to a limited extent, and they were all found to be rich, and we hope that at some time in the near future at least some of our mines may be worked more extensively.

D. W. FINCH,  
Secretary.

THOS. DUFFY,  
President.

## REPORT

FROM THE

## FORTY-SECOND DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of Glenn,

FOR THE YEAR 1894.

**Officers.**—Joseph R. Troxel, President; W. V. Freeman, Secretary; B. N. Burton, Treasurer.

**Directors.**—J. R. Troxel, Willows; James Shelton, Newville; R. B. Murdoch, Orland; E. D. Dudley, Willows; W. W. Marshall, Willows; W. R. Merrill, Willows; W. F. Miller, Butte City; W. N. Kelley, Willows.

WILLOWS, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Forty-second District Agricultural Association submit this, their report of said association, for the year ending this date:

RECEIPTS.		
State aid .....	\$1,500 00	
County aid .....	490 00	
Sale of privileges .....	581 25	
Town subscriptions .....	717 00	
Gate receipts .....	612 00	
Sale of old lumber .....	5 00	
Donated premiums .....	156 50	
Entrance money .....	1,787 50	
Due Bank of Willows .....		\$5,849 25
		253 57
		<u>\$6,102 82</u>
EXPENDITURES.		
Interest on 1893 Directors' note .....	\$120 84	
Light and water at Park and Pavilion .....	225 00	
Rent of Pavilion .....	125 00	
Hay and straw .....	135 51	
Salaries of watchmen, janitor, carpenters, and marshal .....	252 10	
Printing and advertising .....	219 42	
Telegraphing, telephoning, expressage, and stamps .....	32 05	
Drayage .....	17 50	
Working track .....	55 00	
Hardware account of Pavilion .....	26 25	
Decorating .....	82 25	
Music .....	300 00	
Night watchman at Park .....	5 00	
Lumber at Pavilion .....	50 75	
Paid jockey mount .....	10 00	
Refunded entrance money .....	7 50	
Cleaning up stalls and grounds .....	20 00	
Paid premiums .....	537 50	
Printing .....	29 00	
Paid account of purses .....	3,852 15	
		<u>\$6,102 82</u>

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 42.

(Glenn County.)

This, the second annual report of this district, is presented and is aimed to show the exact condition of the territory embraced within the confines of Agricultural District No. 42. In our last report attention was called to the prospect of increased means of irrigation that were in course of development, and we are pleased to note the realization of a portion of the water system referred to therein. Mention was made of the proposed irrigation of some 16,000 acres of land in the northern portion of the county, and the same has been fully realized, and the pleasing spectacle is to be seen at this time of many thousands of this acreage being prepared for the reception of alfalfa seed, and with it an entire revolution of the former systems of making the soil remunerative. Alfalfa is not alone receiving attention, but root crops, such as beets and their kindred, are to be grown by a number of our farmers in the irrigation districts, and much is expected of this departure in the way of live stock production.

Mention was made in our last report of the gigantic scheme known as the Central Irrigation Canal, that purposes to water 125,000 acres of Glenn County's soil and on which more than \$500,000 has been expended. Hope was expressed at that time that the season of 1894 would witness the opening of this immense waterway, but opposing litigation has prevented the accomplishment of this much desired enterprise, and as a result no forward movement can be recorded in this part of our district. The legal warfare that has so long been waged by the opponents of irrigation seems to be nearly at an end, from the fact that throughout this protracted battle through the avenues of the law not one single point has been gained by the foes of irrigation, except delay.

Our wheat farmers are in a deplorable financial way from the continued low prices of that commodity, and notwithstanding a more than average yield during the season 1893-94, but few can point to the result of the year other than that the industry was pursued at a loss.

We can see many things in the gloomy present that forecast a new and prosperous era for the future; one, in particular, is the inclination of the large land-holders to dispose of their properties, owing to the fact that they are not profit-producing with the present ruling prices for cereals, and having been for so many years used to wheat production are loath to turn their energies to the culture of other products.

We would consider this report very incomplete were not reference made to the flourishing condition of the hay industry in the district during the past year. The low prices quoted for wheat induced many farmers to turn their attention to hay, and the result was that an unusually large acreage was given over to the mowing machine, with very gratifying results, owing to the satisfactory prices received and the fair average yield obtained. The experience of our farming people in hay-raising during the past year has been so encouraging that a large part of our territory is being especially prepared this season for this salable product, and it is claimed that with prices even considerably lower than now prevail a desirable profit can be realized.



Live stock is receiving continued attention, and while no great profit has been realized it is pointed out that no loss has been incurred, and this much cannot be said of wheat-raising.

As a result of our District Fair, and the increased interest of our farmers and stock-raisers in its success, we would respectfully call your attention to the fact that the live stock exhibit at our annual meeting this year was more than four times as large in point of numbers and excellence as it was last year, and the same proportion and high standard held good in the exhibition of agricultural products at our Pavilion.

During our annual meeting our district was favored by a visit of inspection from Hon. John Boggs, of Colusa, President of your honorable Board, and the gentleman critically examined our methods and displays, and was very expressive in his commendation of the efforts of our people, and the sights presented elicited his surprise and favor.

For many years it has been known that oranges can be successfully produced in this section, but no effort to speak of has been made in that direction until the advent of water in the northern portion of this district, above referred to in this report; but with its introduction comes the declaration of a respectable number of land-owners within the irrigated field that it is their intention to plant to oranges an acreage of proportions great enough to be of commercial value.

By practical demonstration it has been shown that vast areas of this district are peculiarly adapted to the production of the sugar-beet (*Beta alba*), and by successful experiments, fostered and encouraged by the Directors of this district, it is quite apparent that a valuable industry may be developed by the judicious use of our susceptible soil.

We estimate that there has been a healthy increase in the population of the district during the past year, owing, as we have said before, to the disposition of many of our large realty holders to part with their lands in small quantities, thus opening up opportunities to a class of investors that have been practically barred from making purchases in the past.

In summing up the results of this district in an agricultural way for the past year, we can say that while our main product, wheat, has been ruling at ruinously low prices, the outlook is encouraging as to a change of methods and products—a change that has been in a measure forced upon our producers by the seeming disastrous times of the present.

B. H. MOONEY,  
Director, Agricultural District No. 42.

## REPORT

FROM THE

## FORTY-THIRD DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the Counties of Tulare and Kings,

FOR THE YEAR 1894.

**Officers.**—W. B. Cartmill, President; E. DeWitt, Secretary; Tulare County Bank, Treasurer.

**Directors.**—W. B. Cartmill, Tulare City; Jacob Hayes, Poplar; Hon. G. S. Berry, Lindsay; G. A. Dodge, Hanford; E. E. Bush, Hanford; H. S. Meyer, Tulare City; J. Harrel, Visalia.

TULARE, December 1, 1894.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Forty-third District Agricultural Association submit this, their report of said association, for the year ending this date:

## RECEIPTS.

Gate receipts at Park.....	\$427 00	
Sale of privileges, Park.....	301 60	
Sale of exhibitors' tickets, Park.....	28 50	
Sale of exhibitors' tickets, Pavilion.....	87 50	
Door receipts, Pavilion.....	259 50	
Entrances to races.....	125 00	
Entrances to bicycle race.....	30 00	
State appropriation.....	1,500 00	
		\$2,759 10

## EXPENDITURES.

Postage and expressage and distributing posters.....	\$43 65
Set of entry books.....	3 50
Repairs on water tank and hydrants.....	47 50
Purses and premiums.....	1,054 50
Printing and advertising.....	122 75
Rent of Pavilion and moving machinery, etc.....	146 15
Drayage at Pavilion and Park.....	16 00
Labor at Park and track.....	214 25
Hay and straw.....	83 40
S. B. Upton, night watch at Park.....	10 00
Tulare Gas and Electric Light Co., lighting Pavilion.....	40 00
Puget Sound Lumber Co., lumber at Pavilion.....	42 65
Farmers and Mechanics' Emporium, ribbon.....	1 80
Assistant entry clerks.....	50 25
Doorkeeper and ticket-seller at Pavilion.....	20 00
Labor at Pavilion.....	40 15
Carpenter work at Pavilion.....	42 00
Gatekeeper and ticket-seller at Park.....	30 00
Night watch at Pavilion.....	16 00
Secretary's salary.....	200 00
Porterville Band, music.....	230 00
Shannon & Collins, transportation of band.....	30 00
Premiums in bicycle contest.....	100 00
Prizes in firemen's hose race.....	52 25

Prizes in ladies' tournament.....	\$30 00	
F. Rosenthal, stationery.....	3 30	
J. Lustice, ribbon and bunting.....	7 25	
Linder Hardware Co., hardware.....	9 43	
Lectures on agriculture during Fair.....	75 00	
Distributing programmes.....	75	
Wood and grain.....	17 25	
Interest on overdraft, Bank of Tulare.....	10 00	
Rent of stable during Fair.....	3 00	
		\$2,792 78
Deficit or indebtedness of Association.....		\$33 68

## DESCRIPTIVE REVIEW OF THE RESOURCES OF DISTRICT No. 43.

### (Tulare and Kings Counties.)

Progress and developments have necessarily been slow; largely, and in fact almost entirely, due to the exorbitant charges for transportation. It is only recently that we have been enabled to ship our surplus of hay, which has been large, and will be greatly increased the coming season.

The past season was a disastrous one to the farmers of this district, being the driest since 1879. The dry, unirrigated lands failed entirely, producing little pasture, and even the lands under cover of canals suffered for moisture in the early portion of the season, and in consequence the grain crop was light. Alfalfa, fruit, and grapes alone escaped damage. Corn, potatoes, and other root crops, planted after the canals filled with water, yielded an abundant harvest.

We have been experimenting in the production of sugar-beets in different localities, in eight of which the test shows 15 per cent of sugar. With this showing and cheaper transportation, we hope, in the near future, to be able to interest capital in the erection of a large sugar plant.

The mangel-wurzel, or stock beet, is grown here to perfection, producing as high as 100 tons per acre, but there is no home market, and shipping is out of the question. The same is true of carrots, broom-corn, castor beans, and all other varieties of beans and sorghum. The farmers of the two counties know how to produce them, and have soil and moisture adapted especially to their production; also the industry and enterprise to produce unlimited quantities, but we are practically shut out of the markets of the world by the tariff of the Southern Pacific Railroad.

The district is overstocked with horses, but this season we have found a fair market in Los Angeles and other southern counties.

<i>Acreage of Fruit and Raisins—Tulare County.</i>		<i>Acres.</i>
Apples.....		620
Peaches.....		7,960
Pears.....		572
Prunes.....		2,908
Apricots.....		1,246
Oranges.....		960
Lemons.....		1,080
Vines.....		6,000
Olives, plums, etc.....		370
Total.....		21,716



The amount of fruit and raisins shipped this season up to date is 272 carloads of 12 tons each, or 3,264 tons; with 30 carloads of 12 tons, or 360 tons, yet to ship; total for the season, 3,624 tons. The orange crop this year will be about 75 carloads. But a small acreage of the lemon plant is in bearing, yet the shipments will amount to several carloads.

The best posted fruitmen claim the fruit product of Tulare County will double during the coming season (1895), with the exception of oranges.

There have been shipped 32,416 head of hogs. The farmers on irrigated lands are largely turning their attention to hogs, as they are raised with little expense and find a ready market at remunerative prices.

Turkeys are raised in large numbers on the dry lands of Tulare, and form quite a factor in the revenue of the county; sales of this domestic fowl will aggregate \$30,000 this season.

Cattle shipped from Tulare aggregate, according to the best estimate, 250 carloads this season; of sheep, 400 carloads.

Kings County's acreage of fruit and vines is very large. Fruit area, all kinds, 6,000 acres; vines, 9,000 acres. The total shipments of fruit and raisins will amount to fully 4,500 tons, the greater portion of which is shipped from Hanford, the county seat.

Shipment of hogs from Kings, 150 carloads of 75 head each; sheep, 500 cars of 105 head each; cattle, 50 cars of 20 head each; calves, 25 cars of 30 head each; mules, 4 cars of 20 head each; horses, 30 cars of 20 head each; and large shipments of wool and hides.

The dairy interests of the district are very important. The shipping of butter and cheese to Southern California and Arizona has been so satisfactory this season that all the farmers within reach of the factories find ready sale for milk, and the near future will witness a great revolution in this important industry.

Alfalfa as a forage plant is too well known on this coast to require any praise from us. I will say, however, that the Forty-third District can compete with any portion of the world in its production and understands its value as well. It produces from three to four crops of two tons each per annum, and a large amount of pasture in addition. The acreage will be largely increased the coming season.

E. DE WITT,  
Secretary Forty-third Agricultural District.



# INDEX.

	PAGE.
Act governing the Management of the State Agricultural Society.....	5-6
Act governing District Agricultural Associations.....	6-9
Agricultural Districts, and counties forming same.....	10
Annual Address. By F. H. Gould, of Stockton..... between	96-97
Annual Meeting of Board.....	43-45
Annual Report of Secretary.....	11-32
Constitution of the California State Agricultural Society.....	3-4
Feeding Wheat in Kansas.....	131-133
Financial Statement.....	33-42
Meteorological Review. Compiled by James A. Barwick.....	203-230
Premiums Awarded—	
First Department.....	46-56
Second Department.....	56-57
Third Department.....	58-60
Fourth Department.....	60-62
Fifth Department.....	63-65
Sixth Department.....	65-67
Seventh Department.....	68
Eighth Department.....	68-70
Department gold medals.....	70
Special diplomas.....	71
Proceedings of Congressional Committee on Agricultural Depression.....	134-187
Statement of David Lubin, of Sacramento, California.....	135-161
Statement of Leonard Rhone, of Pennsylvania.....	162-167
Statement of Alexander J. Wedderburn, Master Virginia State Grange.....	168-178
Statement of David Lubin—continued.....	179-186
Report of B. M. Lelong, Superintendent of the Horticultural Department.....	93-96
Report of Milk Test. By Thos. B. Hall, Inspector.....	89-92
Southern California Citrus Fair. Official list of awards.....	97-99
Speed Programme.....	72-88
Statistical Tables of Production of Grain, Wine, and Hops.....	198-202
Wheat-growing in California. Replies from growers.....	100-130
Wheat, Flour, and Barley Review. Compiled by T. C. Friedlander.....	188-197

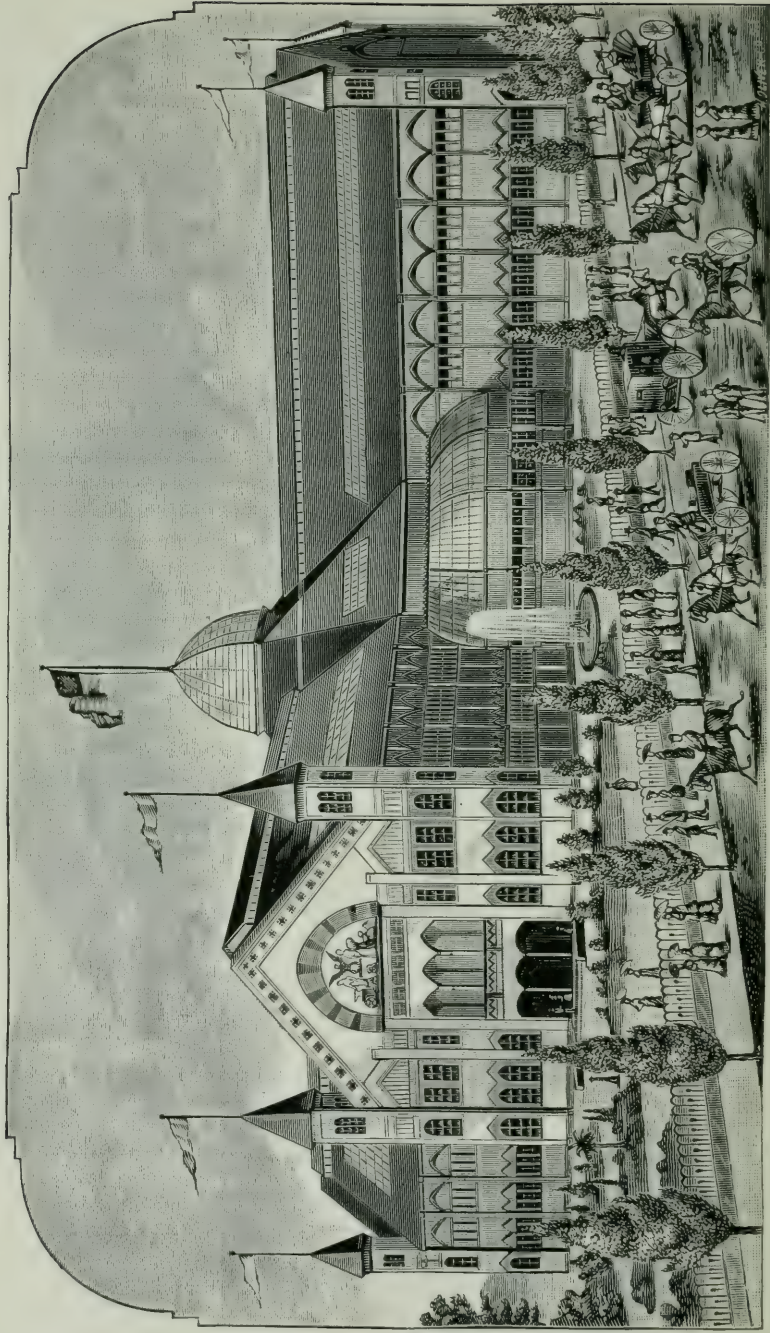
## *Reports from District Agricultural Associations.*

First District—San Francisco and Alameda.....	233-235
Second District—San Joaquin.....	236-241
Third District—Butte.....	242-243
Fourth District—Sonoma and Marin.....	244-247
Fifth District—San Mateo and Santa Clara.....	248-252
Sixth District—Los Angeles.....	253-255
Seventh District—Monterey.....	256-258
Eighth District—El Dorado.....	259-261
Ninth District—Humboldt.....	262-265
Tenth District—Siskiyou and Trinity.....	266-268
Eleventh District—Plumas and Sierra.....	269-272
Twelfth District—Lake and Mendocino.....	273-275
Thirteenth District—Yuba and Sutter.....	276-279
Fourteenth District—A part of Santa Cruz.....	280-283



	PAGE.
Fifteenth District—Kern .....	284-285
Sixteenth District—San Luis Obispo .....	286-288
Seventeenth District—Nevada .....	289-291
Eighteenth District—Inyo, Alpine, and Mono .....	292-296
Nineteenth District—A part of Santa Barbara .....	297-299
Twentieth District—Placer .....	300-301
Twenty-first District—Fresno .....	302-305
Twenty-second District—San Diego .....	306-310
Twenty-third District—Contra Costa .....	311-314
Twenty-fourth District—A part of Santa Cruz .....	315-318
Twenty-fifth District—Napa .....	319-320
Twenty-sixth District—Amador and Sacramento .....	321-328
Twenty-seventh District—Shasta .....	329-331
Twenty-ninth District—Tuolumne .....	332-335
Thirtieth District—Tehama .....	336-349
Thirty-first District—Ventura .....	350-359
Thirty-second District—Orange .....	360-361
Thirty-third District—San Benito .....	362-363
Thirty-fourth District—Modoc and Lassen .....	364-366
Thirty-fifth District—Merced and Mariposa .....	367-368
Thirty-sixth District—Solano .....	369-370
Thirty-seventh District—A part of Santa Barbara .....	371-374
Thirty-eighth District—Stanislaus .....	375-378
Thirty-ninth District—Calaveras .....	379-380
Fortieth District—Yolo and Colusa .....	381-384
Forty-first District—Del Norte .....	385-387
Forty-second District—Glenn .....	388-390
Forty-third District—Tulare and Kings .....	391-393





PAVILION OF STATE AGRICULTURAL SOCIETY, SACRAMENTO.



TRANSACTIONS  
OF THE  
CALIFORNIA  
STATE AGRICULTURAL SOCIETY  
DURING THE YEAR 1895.



SACRAMENTO:  
A. J. JOHNSTON, : : : : : SUPERINTENDENT STATE PRINTING.  
1896.

# STATE BOARD OF AGRICULTURE FOR 1895.

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## DIRECTORS.

JOHN BOGGS .....	Princeton, Colusa County.
C. M. CHASE .....	San Francisco.
W. P. MATHEWS .....	Tehama.
J. W. WILSON .....	Sacramento.
J. H. FLICKINGER .....	San José.
F. C. DeLONG .....	Novato, Marin County.
J. E. TERRY .....	Sacramento.
FREDERICK COX .....	Sacramento.
RICHARD GIRD .....	Chino, San Bernardino County.
J. E. BUDD .....	Stockton.
WM. LAND .....	Sacramento.
JOHN MACKEY .....	Sacramento.

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## OFFICERS OF THE BOARD.

C. M. CHASE .....	PRESIDENT.	San Francisco.
EDWIN F. SMITH .....	SECRETARY.	Sacramento.
L. A. UPSON .....	TREASURER.	Sacramento.
J. E. TERRY .....	SUPERINTENDENT OF PARK.	Sacramento.
F. C. DeLONG .....	SUPERINTENDENT OF PAVILION.	Novato, Marin County.

# CONSTITUTION

## OF THE

# CALIFORNIA STATE AGRICULTURAL SOCIETY.

[Revised and adopted by the State Board of Agriculture, March 21, 1892.]

### NAME.

SECTION 1. This society shall be called "The California State Agricultural Society."

### OBJECT.

SEC. 2. It shall be the object of this society to encourage the cultivation of the soil, and the general development of all the agricultural resources of this State.

SEC. 3. To foster every branch of mechanical and household arts calculated to increase the comforts of home life.

SEC. 4. To extend and facilitate the various branches of mining and mining interest.

### MEMBERSHIP.

SEC. 5. *Life Members.*—Any person may become a member for life by the payment of one hundred dollars; or, if owner of an exhibitor's ticket for the current year, by the payment of ninety-five dollars, or by serving a full term as a member of the State Board of Agriculture, and shall thereafter be exempt from all dues and assessments.

SEC. 6. *Honorary and Corresponding Members.*—Any person whom the Board shall propose may be elected an honorary or corresponding member, and shall enjoy, free of charge, all of the privileges of the society, except voting and holding office.

SEC. 7. *Privileges of Members.*—Any citizen of this State being a life member of this society, shall be furnished with a personal badge for his separate use, which shall entitle him to admission to all the exhibitions of the society, the quarter-stretch, and Grand and Special Stands at Park, during his lifetime, and a separate ticket for the use of his wife and minor children only, which will entitle them to admission to all the exhibitions of the society, each day, as follows: to the Park (morning), to the Park (afternoon), to the Pavilion (afternoon and evening), and shall be permitted to compete for premiums in any and all departments.

SEC. 8. *Expulsion of Members.*—Any member who shall present for exhibition any article or animal which he is not entitled by the rules of the society to exhibit, or who shall attempt to deceive, or be guilty of a breach of good faith toward the society, may be expelled by a vote of two thirds of the members present at any meeting of the Board; *provided, always,* that no member shall be expelled unless written notice of the alleged offense shall have been served on him, or left at his usual place of residence, at least twenty days previous to the action.

### OFFICERS.

SEC. 9. The officers of the society shall consist of twelve Directors, to be appointed by the Governor, who shall constitute a State Board of Agriculture, seven of whom shall constitute a quorum. The Board shall be charged with the exclusive management and control of the State Agricultural Society as a State institution; shall have possession and care of its property, and be intrusted with the direction of its entire business and financial affairs; shall have power to make all necessary changes in the constitution and rules of the society; shall provide for an annual fair or exhibition by the society of all the industries and industrial products of the State, at the City of Sacramento, and such other exhibitions as they may deem important. They shall elect one of their members as President of the Board and society, and a Treasurer and Secretary, not members of the Board. They may also appoint, annually, as officers of the Board, a chemist, a botanist, a mineralogist, a geologist, a metallurgist, an ornithologist, and an entomologist, and define the duties of each. They may appoint such committees on the various departments of agriculture, mining, and manufactures, either generally or for specific purposes, as they may deem important for the best interests of the State, and



require such committees to report the result of their investigations to the Board at such times as may be named by them.

SEC. 10. *Duties of President.*—The President shall preside at all meetings of the Board and of the society; shall have power to call special meetings of the Board when necessary, and at the written request of ten members may call extra meetings of the society; shall appoint all committees not otherwise provided for; and shall sign all financial and official documents emanating from the society, and not otherwise provided for. In the absence of the President from any meeting of the Board or society, any Director may be called to the chair, and, during such meeting, and for the completion of any business transacted or ordered at the same, shall have the same powers as the President.

SEC. 11. *Duties of Secretary.*—The Secretary shall conduct the correspondence of the Board or society, keeping copies of all important letters written in the name or on behalf of the Board or society, holding the same free to the inspection of any member of the Board or society, at any regular meeting of the same. He shall also receive and file all letters addressed to the Board or society, holding the same subject to the Board of Directors. He shall attend all meetings of the society and the Board, keeping a full record of the proceedings of each in a book for that purpose. He shall prepare and publish all notices of meetings, shall keep a roll of standing committees, and call the same (noting absences) whenever desired to do so by the Chair; shall sign all certificates for honorary and corresponding and life memberships, and forward the same to those entitled to receive them. He shall keep, in a book prepared for that purpose, the name and address of every member; shall prepare and sign all gratuitous or complimentary cards or tickets of admission; shall countersign all diplomas, certificates of merit, etc., awarded by the Board, and forward the same to their respective claimants. He shall be ex officio librarian; shall keep the seal and all the plates, dies, engravings, etc., belonging to the society, and shall cause to be struck therefrom such medals and impressions as may, from time to time, be required. He shall have charge of all specimens, models, plants, seeds, books, etc., and arrange, prepare, or distribute the same under the direction of the Board. He shall prepare all reports to be made by the Board to the society and to the State. He shall receive all moneys due or payable to the society, and pay the same to the Treasurer, taking his receipt therefor; shall hold all bonds filed by the officers of the society for the faithful performance of their duty, and all vouchers for every class of expenditure. He shall countersign all drafts ordered by the Board, and all exhibitors' certificates and life memberships, and keep an account of the same in a book as they are issued, and shall, in January of each year, prepare a tabular statement of the receipts and expenditures of the Board according to the law organizing the same.

SEC. 12. *Duties of the Treasurer.*—The Treasurer shall receipt for all funds at the hands of the Secretary, and shall disburse the same only on the order of the Board, attested by the President and the Secretary. He shall also hold in trust all certificates of stock, bonds, notes, deeds, or other evidences of debt or possession belonging to the society, and shall transfer, invest, or dispose of the same only by direction of the Board. He shall file with the Secretary a bond for the faithful performance of his duties, said bond to be approved by the Board, and shall, at the annual meeting, make to the society a detailed report of all his transactions.

#### STANDING COMMITTEES.

SEC. 13. *Committee of Finance.*—The Committee of Finance shall consist of five members of the Board, the President being one, whose duty it shall be to audit the Secretary's and Treasurer's accounts, to examine and approve all bills before they are paid, to have general supervision of the finances of the society, and to report their transactions and the financial condition of the society in full to the Board whenever called on so to do.

SEC. 14. *Library Committee.*—The Library Committee shall consist of four members of the Board, and the Secretary, whose duty it shall be to have the general supervision of the library and cabinet; to make all necessary rules and regulations for the government of the same (said rules and regulations being subject to the approval of the Board); to suggest such means for the safe-keeping and enlargement of both the library and cabinet as they may deem expedient, and to make a full report of their transactions, together with the state of the department under their charge, at each annual meeting.

SEC. 15. *Visiting Committee.*—The Visiting Committee, to be appointed by the Board from their own number, shall visit and examine all farms, orchards, vineyards, nurseries, field crops, irrigating works, agricultural machine works, agricultural machinery in operation, etc., which may be entered for competition, and which require examination at other times and places than the annual fair; to award premiums for the same according to the schedule, and to recommend such gratuities as they may deem proper, and make a full report to the Board at least one day previous to the annual fair.

SEC. 16. *Printing and Publication Committee.*—The Committee on Printing and Publication shall consist of five (the President and Secretary being two), whose duty it shall be to contract for and superintend, under the direction of the Board, all printing and publishing necessary for the society.

#### OFFICE AND ROOMS.

SEC. 17. The office, rooms, library, and cabinet of the Board and society shall be permanently located at the capital of the State.

## STATE AGRICULTURAL SOCIETY.

## AN ACT

TO PROVIDE FOR THE MANAGEMENT AND CONTROL OF THE STATE AGRICULTURAL SOCIETY BY THE STATE.

[Approved April 15, 1880.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. The State Agricultural Society is hereby declared a State institution.

SEC. 2. Within ten days after the passage of this Act, the Governor shall appoint twelve resident citizens of the State, who shall, when organized, constitute a State Board of Agriculture, who shall, except as hereinafter provided, hold office for the term of four years, and until their successors are appointed and qualified. Vacancies occurring from any cause in the Board shall be filled by appointment of the Governor for the unexpired term of the office vacated.

SEC. 3. Within ten days after their appointment, the persons so appointed shall qualify as required by the Constitution, and shall meet at the office of the State Agricultural Society, and organize by the election of one of their number as President of the Board and said society, who shall hold said office of President for the term of one year, and until his successor is elected and qualified. The Board shall also select a Secretary, and Treasurer, not of their number, who shall each hold office at the discretion of the Board.

SEC. 4. At the same meeting the members of the Board shall, by lot or otherwise, classify themselves into four classes of three members each. The term of office of the first class shall expire at the end of the first fiscal year; of the second class, of the second year; of the third class, of the third year; of the fourth class, at the end of the full term of four years. The fiscal year shall be from the first of February to the first of February.

SEC. 5. The State Board of Agriculture shall be charged with the exclusive management and control of the State Agricultural Society as a State institution; shall have possession and care of its property, and be intrusted with the direction of its entire business and financial affairs. They shall define the duties of the Secretary and Treasurer, fix their bonds and compensation, and shall have power to make all necessary changes in the constitution and rules of the society, to adapt the same to the provisions of this Act, and to the management of the society, its meetings and exhibitions. They shall provide for an annual fair or exhibition by the society of all the industries and industrial products of the State, at the City of Sacramento; *provided*, that in no event shall the State be liable for any premium awarded or debt created by said Board of Agriculture.

SEC. 6. The Board shall have power to appoint all necessary marshals and police to keep order and preserve peace at the annual fairs of the society; and the officers so appointed shall be vested with the same authority for the preservation of order and peace, on the grounds and in the buildings of the society, that executive peace officers are vested with by law.

SEC. 7. Said Board shall use all suitable means to collect and disseminate all kinds of information calculated to educate and benefit the industrial classes, develop the resources, and advance the material interests of the State, and shall, on or before the first day of February of each year, report to the Governor a full and detailed account of their transactions, statistics, and information gained, and also a full financial statement of all funds received and disbursed. They shall also make such suggestions and recommendations as experience and good policy may dictate, to the improvement and advancement of the agricultural and kindred industries.

SEC. 8. The Superintendent of State Printing shall, each year, print and bind in cloth, four thousand volumes of said transactions, and deliver the same to said Board of Agriculture for distribution and exchange. He shall also do such job printing as said Board may require to carry out the provisions of this Act.

SEC. 9. The Directors or Board of Managers of each county and district agricultural society or association, and of county, district, or State horticultural and stock-breeding association or society, organized and acting under the laws of this State, shall report annually, on or before the first day of April, to the State Board of Agriculture, the name and post office address of each officer of such society or association; and, on or before the first day of December, shall report to the Board of Agriculture the transactions of said society, including the premiums offered, the list of stock and articles exhibited, and the premiums paid; the amount of receipts and expenditures for the year, the new industries inaugurated, and any and all facts and statistics showing the development and



extent of the industries, products, and resources of the county or district embraced within the management of such society or association; *provided*, that the provisions of this Act shall not apply to any Board of Commissioners or other body organized under the laws of this State, the object of which is to promote vinicultural industries, unless such Board or body shall voluntarily request the privilege of making such reports as are called for by this Act, in which case this Board or body shall enjoy equal privileges as are accorded to other institutions devoted to agriculture.

SEC. 10. To facilitate such reports, the State Board of Agriculture shall have prepared, and shall furnish such societies with necessary schedules and blanks for such reports, and such State Board shall include such reports from societies and associations, or so much thereof as they may deem advisable, in their report to the Governor.

SEC. 11. When said State Board of Agriculture shall have been organized and classified as provided herein, the Secretary of the Board shall report such organization and classification to the Governor. He shall also report any vacancy that may occur in said Board at any time.

SEC. 12. All laws and parts of laws in conflict with this Act are hereby repealed.

SEC. 13. This Act shall take effect and be in force from and after its passage.

## DISTRICT AGRICULTURAL ASSOCIATIONS.

### AN ACT

TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE, AND TO REPEAL SO MUCH OF AN ACT ENTITLED "AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE," APPROVED APRIL 15, 1880, AND OF ALL ACTS AMENDATORY THEREOF, AS ARE IN CONFLICT HEREWITH.

Approved March 20, 1891.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. [See Act of 1893.]

SEC. 2. Where two or more counties shall constitute an agricultural district, each county shall be represented in the District Board of Directors by at least two resident citizens as Directors in said Board; *provided*, that when by reason of the formation of a new agricultural district, a Director of one district becomes a resident of another, his term of office as Director will expire in sixty days after the formation of the new agricultural district. Whenever the Board of Directors of two or more agricultural districts shall, by a majority vote of each Board, elect to unite, the said several districts may associate as one district, and hold a fair in any of said districts, and may for such purpose draw the appropriation for all of said districts, and expend the same for said fair in like manner as in the case of one district holding a separate fair.

SEC. 3. Any fifty or more persons, representing a majority of the counties within any one of the districts above constituted, may form an association for the improvement of the material industries within such district, and when so formed the association shall be known and designated by the name of — Agricultural Association, and by such name and style shall have perpetual succession, and shall have power and authority to contract and be contracted with, to sue and be sued, to have and use a common seal, to purchase and hold and lease real estate, with such buildings and improvements as may be erected thereon, and may sell and lease and dispose of the same at pleasure. The said real estate, except as hereinafter provided, shall be used by such association for the purpose of holding exhibitions of horses, cattle, and other stock, and of the agricultural, horticultural, viticultural, mechanical, manufacturing, and domestic products of such district, with view to the improvement of all industries in the same. But the said association shall have the power, and are hereby authorized, to sell and convey any portion of the real estate held by it, by whatever title derived, which may not be necessary for the permanent use of said association for the purposes aforesaid.

SEC. 4. The officers of such association shall consist of eight Directors, who shall constitute a District Board of Agriculture for District Number —; a President, who shall be one of their number; and a Secretary and Treasurer, not of their number.



SEC. 5. Within ten days after the formation of any new agricultural association within any of the districts above constituted in accordance with the provisions of this Act, and notice of such formation to the Governor, the Governor shall appoint eight resident citizens of such district as members of a District Board of Agriculture for said district, whose term of office shall be four years, except as hereinafter provided.

SEC. 6. Within ten days after their appointment, the persons so appointed shall qualify as required by the Constitution, and shall meet at a place within the district and organize by the election of one of their number as President of the Board and association, who shall hold said office of President one year, and until his successor is elected; they shall also elect a Secretary and Treasurer.

SEC. 7. At the same meeting the members of the Board shall, by lot or otherwise, classify themselves into four classes of two members each. The term of office of the first class shall expire at the end of the first fiscal year; of the second class, of the second fiscal year; of the third class, of the third fiscal year; and of the fourth class, at the end of the full term of four years. The fiscal year shall be from December first to December first; *provided*, that all officers of agricultural districts now in office under any law heretofore passed shall hold office for the term for which they were appointed, except in cases specified in section two of this Act. And the agricultural associations heretofore established shall be continued in force, and, so far as applicable, are made agricultural associations under this Act.

SEC. 8. Each association so formed and organized is hereby declared and shall be recognized a State institution, and the Board so appointed and qualified shall have the exclusive control and management of such institution for and in the name of the State, and shall have the possession and care of all the property of the association, and shall fix the terms of office and bonds of the Secretary and Treasurer, and determine their salaries and duties. They shall have power to make all necessary by-laws, rules, and regulations for the government of the association and the management of its prudential and financial affairs. They shall provide for an annual fair or exhibition by the association of all the industries and industrial products in the district, at such time and place as they may deem advisable; *provided*, that no District Fair shall be held in any of the districts at the same time of the State Fair; *and provided further*, that the State shall in no event be liable for any premium offered, or award, or for any debt contracted by any District Board of Agriculture or Agricultural Association.

SEC. 9. When any District Board of Agriculture shall have been classified and organized as herein provided, the Secretary of the Board shall report such classification and organization to the State Board of Agriculture. He shall also report the same to the Governor, and shall report any vacancy that may occur in the Board to the Governor, who shall fill the same by appointment for the unexpired term.

SEC. 10. Whenever any such association shall desire to sell any portion of its real estate not needed for the permanent use of the association, for the purposes specified in section two, and such real estate be held by such association under a deed or deeds of trust conveying the said lands in trust, to be held in perpetuity as a place for holding agricultural exhibitions or fairs, or for other permanent purposes of such association, it shall be lawful for such association to file its complaint in the Superior Court of the county in which such lands are situated, setting forth the nature of the title under which they are held, and that it is the desire of the said association to sell and dispose of such real estate, and praying for judgment authorizing it to sell and convey the same. In such action the trustee or trustees in such deed or deeds, or the survivor or survivors of them, or the heirs, or administrators, or executors of deceased trustees, as the case may require, shall be made parties defendant; and upon service of the summons upon such defendants, personally, or by publication, or upon their appearance, the Court shall have full jurisdiction in the premises; and the deed executed under and in pursuance of the judgment of the Court shall be valid and effectual to convey to the purchaser the title of said association, and that of all of its predecessors in title made parties to the suit.

SEC. 11. [See Act of 1893.]

SEC. 12. This Act shall take effect from and after its passage.

## AN ACT

TO AMEND AN ACT ENTITLED "AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE, AND TO REPEAL SO MUCH OF AN ACT ENTITLED 'AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE,'" APPROVED MARCH 20, 1891, BY AMENDING SECTIONS ONE, ELEVEN, AND TWELVE.

[Approved March 23, 1893.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Section one of said Act is hereby amended to read as follows: The several counties of this State are divided and classified into agricultural districts, and numbered as follows, to wit: The counties of San Francisco and Alameda shall constitute Agricultural District No. 1. The county of San Joaquin shall constitute Agricultural District No. 2. The county of Butte shall constitute Agricultural District No. 3. The counties of Sonoma and Marin shall constitute Agricultural District No. 4. The counties of San Mateo and Santa Clara shall constitute Agricultural District No. 5. The county of Los Angeles shall constitute Agricultural District No. 6. The county of Monterey shall constitute Agricultural District No. 7. The county of El Dorado shall constitute Agricultural District No. 8. The county of Humboldt shall constitute Agricultural District No. 9. The counties of Siskiyou and Trinity shall constitute Agricultural District No. 10. The counties of Plumas and Sierra shall constitute Agricultural District No. 11. The counties of Lake and Mendocino shall constitute Agricultural District No. 12. The counties of Sutter and Yuba shall constitute Agricultural District No. 13. The county of Santa Cruz, save and except the part thereof southeast of the line beginning at a point where the Aptos Creek empties into the Bay of Monterey, and extending directly northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 14. The county of Kern shall constitute Agricultural District No. 15. The county of San Luis Obispo shall constitute Agricultural District No. 16. The county of Nevada shall constitute Agricultural District No. 17. The counties of Mono, Inyo, and Alpine shall constitute Agricultural District No. 18. All that portion of Santa Barbara County lying east of the Gaviota and south of the Santa Ynez Mountains shall constitute Agricultural District No. 19. The county of Placer shall constitute Agricultural District No. 20. The county of Fresno shall constitute Agricultural District No. 21. The county of San Diego shall constitute Agricultural District No. 22. The county of Contra Costa shall constitute Agricultural District No. 23. All that part of Santa Cruz County southeast of a line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending in a direct line northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 24. The county of Napa shall constitute Agricultural District No. 25. The counties of Sacramento and Amador shall constitute Agricultural District No. 26. The county of Shasta shall constitute Agricultural District No. 27. The county of San Bernardino shall constitute Agricultural District No. 28. The county of Tuolumne shall constitute Agricultural District No. 29. The county of Tehama shall constitute Agricultural District No. 30. The county of Ventura shall constitute Agricultural District No. 31. The county of Orange shall constitute Agricultural District No. 32. The county of San Benito shall constitute Agricultural District No. 33. The counties of Modoc and Lassen shall constitute Agricultural District No. 34. The counties of Merced and Mariposa shall constitute Agricultural District No. 35. The county of Solano shall constitute Agricultural District No. 36. All that portion of Santa Barbara County not included in Agricultural District No. 19 shall constitute Agricultural District No. 37. The county of Stanislaus shall constitute Agricultural District No. 38. The county of Calaveras shall constitute Agricultural District No. 39. The counties of Yolo and Colusa shall constitute Agricultural District No. 40. The county of Del Norte shall constitute Agricultural District No. 41. The county of Glenn shall constitute Agricultural District No. 42. The county of Tulare shall constitute Agricultural District No. 43.

SEC. 2. Section eleven of said Act is hereby amended to read as follows: So much of an Act entitled "An Act to form agricultural districts, to provide for the organization of agricultural associations therein, and for the management and control of the same by the State," approved March twentieth, eighteen hundred and ninety-one, and all Acts in conflict herewith, are hereby repealed.

SEC. 3. This Act shall take effect from and after its passage.

## AN ACT

TO AMEND AN ACT ENTITLED "AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE, AND TO REPEAL SO MUCH OF AN ACT ENTITLED 'AN ACT TO FORM AGRICULTURAL DISTRICTS, TO PROVIDE FOR THE FORMATION OF AGRICULTURAL ASSOCIATIONS THEREIN, AND FOR THE MANAGEMENT AND CONTROL OF THE SAME BY THE STATE,' APPROVED MARCH 20, 1891, BY AMENDING SECTIONS ONE, ELEVEN, AND TWELVE," APPROVED MARCH 23, 1893, BY AMENDING SECTION ONE THEREOF.

[Approved March 26, 1895.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. Section one of said Act is hereby amended to read as follows:

Section 1. The several counties of this State are divided and classified into agricultural districts, and numbered as follows, to wit: The counties of San Francisco and Alameda shall constitute Agricultural District No. 1. The county of San Joaquin shall constitute Agricultural District No. 2. The county of Butte shall constitute Agricultural District No. 3. The counties of Sonoma and Marin shall constitute Agricultural District No. 4. The counties of San Mateo and Santa Clara shall constitute Agricultural District No. 5. The county of Los Angeles shall constitute Agricultural District No. 6. The county of Monterey shall constitute Agricultural District No. 7. The county of El Dorado shall constitute Agricultural District No. 8. The county of Humboldt shall constitute Agricultural District No. 9. The counties of Siskiyou and Trinity shall constitute Agricultural District No. 10. The county of Plumas shall constitute Agricultural District No. 11. The counties of Lake and Mendocino shall constitute Agricultural District No. 12. The counties of Sutter and Yuba shall constitute Agricultural District No. 13. The county of Santa Cruz, save and except the part thereof southeast of the line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending directly northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 14. The county of Kern shall constitute Agricultural District No. 15. The county of San Luis Obispo shall constitute Agricultural District No. 16. The county of Nevada shall constitute Agricultural District No. 17. The counties of Mono, Inyo, and Alpine shall constitute Agricultural District No. 18. All that portion of Santa Barbara County lying east of the Gaviota and south of the Santa Ynez Mountains shall constitute Agricultural District No. 19. The county of Placer shall constitute Agricultural District No. 20. The county of Fresno shall constitute Agricultural District No. 21. The county of San Diego shall constitute Agricultural District No. 22. The county of Contra Costa shall constitute Agricultural District No. 23. All that part of Santa Cruz County southeast of a line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending in a direct line northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 24. The county of Napa shall constitute Agricultural District No. 25. The counties of Sacramento and Amador shall constitute Agricultural District No. 26. The county of Shasta shall constitute Agricultural District No. 27. The county of San Bernardino shall constitute Agricultural District No. 28. The county of Tuolumne shall constitute Agricultural District No. 29. The county of Tehama shall constitute Agricultural District No. 30. The county of Ventura shall constitute Agricultural District No. 31. The county of Orange shall constitute Agricultural District No. 32. The county of San Benito shall constitute Agricultural District No. 33. The county of Lassen shall constitute Agricultural District No. 34. The counties of Merced and Mariposa shall constitute Agricultural District No. 35. The county of Solano shall constitute Agricultural District No. 36. All that portion of Santa Barbara County not included in Agricultural District No. 19 shall constitute Agricultural District No. 37. The county of Stanislaus shall constitute Agricultural District No. 38. The county of Calaveras shall constitute Agricultural District No. 39. The counties of Yolo and Colusa shall constitute Agricultural District No. 40. The county of Del Norte shall constitute Agricultural District No. 41. The county of Glenn shall constitute Agricultural District No. 42. The county of Tulare shall constitute Agricultural District No. 43. The county of Modoc shall constitute Agricultural District No. 44. The county of Sierra shall constitute Agricultural District No. 45.



## AGRICULTURAL DISTRICTS

ORGANIZED UNDER AN ACT APPROVED APRIL 15, 1880, AND AMENDED  
MARCH 6, 1883; MARCH 14, 1885; MARCH 9, 1887; MARCH 6, 1889; MARCH  
20, 1891; MARCH 23, 1893; MARCH 26, 1895.

- No. 1. The counties of San Francisco and Alameda shall constitute Agricultural District No. 1.
- No. 2. The county of San Joaquin shall constitute Agricultural District No. 2.
- No. 3. The county of Butte shall constitute Agricultural District No. 3.
- No. 4. The counties of Sonoma and Marin shall constitute Agricultural District No. 4.
- No. 5. The counties of San Mateo and Santa Clara shall constitute Agricultural District No. 5.
- No. 6. The county of Los Angeles shall constitute Agricultural District No. 6.
- No. 7. The county of Monterey shall constitute Agricultural District No. 7.
- No. 8. The county of El Dorado shall constitute Agricultural District No. 8.
- No. 9. The county of Humboldt shall constitute Agricultural District No. 9.
- No. 10. The counties of Siskiyou and Trinity shall constitute Agricultural District No. 10.
- No. 11. The county of Plumas shall constitute Agricultural District No. 11.
- No. 12. The counties of Lake and Mendocino shall constitute Agricultural District No. 12.
- No. 13. The counties of Sutter and Yuba shall constitute Agricultural District No. 13.
- No. 14. The county of Santa Cruz, save and except that part thereof southeast of the line beginning at a point where the Aptos Creek empties into the Bay of Monterey, and extending directly northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 14.
- No. 15. The county of Kern shall constitute Agricultural District No. 15.
- No. 16. The county of San Luis Obispo shall constitute Agricultural District No. 16.
- No. 17. The county of Nevada shall constitute Agricultural District No. 17.
- No. 18. The counties of Alpine, Mono, and Inyo shall constitute Agricultural District No. 18.
- No. 19. All that portion of Santa Barbara County lying east of the Gaviota and south of the Santa Ynez Mountains shall constitute Agricultural District No. 19.
- No. 20. The county of Placer shall constitute Agricultural District No. 20.
- No. 21. The county of Fresno shall constitute Agricultural District No. 21.
- No. 22. The county of San Diego shall constitute Agricultural District No. 22.
- No. 23. The county of Contra Costa shall constitute Agricultural District No. 23.
- No. 24. All that part of Santa Cruz County southeast of a line beginning at a point where the Aptos Creek empties into the bay of Monterey, and extending in a direct line northeast to the boundary line of Santa Clara County, shall constitute Agricultural District No. 24.
- No. 25. The county of Napa shall constitute Agricultural District No. 25.
- No. 26. The counties of Sacramento and Amador shall constitute Agricultural District No. 26.
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- No. 40. The counties of Yolo and Colusa shall constitute Agricultural District No. 40.
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- No. 42. The county of Glenn shall constitute Agricultural District No. 42.
- No. 43. The county of Tulare shall constitute Agricultural District No. 43.
- No. 44. The county of Modoc shall constitute Agricultural District No. 44.
- No. 45. The county of Sierra shall constitute Agricultural District No. 45.

## REPORT.

OFFICE OF THE STATE BOARD OF AGRICULTURE, }  
SACRAMENTO, CAL., February 1, 1896. }

To HON. JAMES H. BUDD, *Governor of California*:

SIR: In compliance with law we have the honor to submit our annual report for the fiscal year ending January 31, 1896.

In our endeavor to aid the cause of agriculture, we herein give a short review of the present condition of several branches thereof, and make such suggestions for their improvement as we believe to be for the welfare of not only those directly engaged, but also of the community in general, with the possible result of stimulating the dormant resources of this great State.

Agriculture is certainly a following that we all feel deep interest in, as to our mind, upon it the future of the State depends, and it behooves all classes of citizens to well consider its present condition and lend all possible aid to its promotion. We include in this volume the usual table of statistics upon productions, as well as several valuable papers appertaining to the subject in hand.

### THE SEASON OF 1895.

With the exception of a slight improvement in prices for cereals, occasioned to a certain extent by a reaction from the bottom prices of 1894, this season was the most unsatisfactory in the history of grain-growing in this State. The season opened most favorably with sufficient rainfall for extensive seeding, and the early prospects were bright for a full yield of all products, but the month of February failed to give us the character of weather usual for that period of the year; instead, we had most pleasant spring weather, with 1.28 inches of rain less than normal. This abnormal weather advanced the growth of fruit buds so much that the severe frosts of March 14th-29th (a most unusual visitation) ruined at least 80 per cent of the early varieties of fruit, to wit: apricots, almonds, and cherries. All other fruits promised an abundance, and the grain crops on April 1st gave assurance of a very large yield. The unusual cold spell which extended far into April, had a retarding effect upon growing crops; then followed in succession dry northers, which were expected to do great damage to late-sown grain, but almost immediately thereafter the entire State was visited by a copious rainfall that quickly dispelled apprehension, and caused a feeling of prosperity throughout our producing sections. This rainfall, coming at a most opportune time, assured, as we believed, a rich grain harvest, but retarded the ripening of early fruits, and caused more or less dropping of pears, apricots, and prunes, which, however, proved a blessing in disguise, as it saved the expense of thinning, and gave quality to the remaining fruit.

Grain prospects continued favorable until about June 1st, when rust made its appearance in the San Joaquin Valley. This disaster was followed by an excessive hot spell, interspersed with strong north winds, striking the grain in the stages when it is most susceptible to damage—

the earlier advanced grain had almost ripened, and shelled out; while the late grain was in the "dough," having just passed from the milky state, and this grain shriveled. Up to this period reports from correspondents gave the condition as 10 per cent better than at the corresponding date of 1894. This unfavorable weather made the result of the harvest most disappointing, as the yield resulted in the lightest ever recorded in the history of grain-growing in California. The peculiar character of this setback greatly hampered this office in figuring returns, as our results are figured upon a percentage based upon the returns of the previous year, and the damage in shrinkage was most difficult to obtain. Our estimate of the entire yield of wheat for 1895 was 20,779,832 bushels, as against 26,071,510 bushels in 1894; while the quality showed the lowest average of any grown for many years. As previously stated, the prices were better in 1895. The average price in October was 96 cents as against 78 cents in 1894, and at the close of the year \$1 02½ as against 88 cents for the previous year. This improvement in price was caused by an unexpected demand for milling wheat for shipment to Australia and South Africa. From data furnished this office by Mr. T. C. Friedlander, of the San Francisco Produce Exchange, whose annual wheat, flour, and barley review, with export tables, will be found, as usual, in this volume, we find that 50,000 tons of wheat will be required for this trade, being the first call we have had from these countries since 1889. Our exports of wheat for the year 1895 amounted to a little over 11,000,000 centals, or 18,333,333 bushels; while flour increased to 950,000 barrels, an equivalent of 4,750,000 bushels, giving us a total of 23,083,333 bushels of wheat, an increase of 3,767,000 bushels over 1894. This increase of exports is largely due to the shipping of wheat held on the speculative deal of two years ago, and an extra order of 200,000 barrels of flour, as we note with satisfaction the shipment of two full cargoes of flour to the United Kingdom—a slight revival of trade that fell off in the past few years.

The yield of barley shows a marked increase over 1894. Good barley is selling at 75 cents, with a fairly good demand for export grades. There is an increased demand in the English market for bright grain California barley; it is rated as second to the best grade barleys of Smyrna, and is regarded among the best malting barley in that market.

#### WHEAT-GROWING.

There is in this State a confirmed feeling that the growing of wheat as a staple cereal product for export is an industry of the past, and that its production must be confined to home consumption. A review of our local market prices of wheat for export, extending over the past thirty years, will show a remarkable falling off. In October, 1865, wheat sold at tide-water for \$2 per cental, or \$1 20 per bushel. In October, 1894, at the same point, the price was 78 cents per cental, or 46.8 cents per bushel. Take the subject of exports from California: this will more clearly show the change of conditions. From the table to be found farther on in this report, it will be seen that in 1854 our total export of wheat was 214,610 centals, or 360,000 bushels. From that time forth, with the exception of one or two seasons of drought, there was a steady and healthy increase, until the season of 1882 showed the total amount to be 25,320,316 centals, or 42,200,526 bushels. That season the wheat industry was in its zenith in California, for the export



price obtained was \$1 70 per cental, or \$1 02 per bushel, which figure, although maintained through the next year, has never again been reached. It will be observed that the value of wheat exported from California in 1882 was \$42,000,000 in round numbers. It is no mystery, then, that the wheat-grower has become less prosperous, for exports have steadily declined in volume, until, in 1893-4, the total amount was but 18,000,000 bushels, at tide-water price of 46.8 cents per bushel.

These figures better illustrate the actual condition of the wheat farmer than volumes that might be written. When there is taken into consideration the fact that, in the short space of twelve years, there has been a reduction of over 80 per cent in returns, is it necessary to search further for the reason why the wheat-grower is not prosperous? Can any one stand up in the face of these facts and argue that the day of wheat-growing for profit is not of the past? Farmers, study these figures and make up your minds that other products must be tried. Prices will still continue to decline; they can do nothing else, under the circumstances now existing. Take, for example, the English market. A perusal of prices ruling there during the first nine months of 1894 will show a rapid decline. We append the following table, taken from the Report of the U. S. Secretary of Agriculture:

*Prices of Certain Food Products in Great Britain on the First Day of Each Month (or thereabouts) of the Year 1894.*

Date.	American Red Winter Wheat (per Winchester Bushel).	English Wheat (per Winchester Bushel).	English Barley (per Bushel of 56 Pounds).	Beef, Inferior (Cash, Wholesale, per Pound).	Beef, Superior (per Pound).	Potatoes (per Ton).
1894.	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	
January 5 .....	77	76	88½	7½	14½	\$14 60
February 2 .....	78	76	88½	7	13¾	12 77
March 2 .....	77	70	85	6	13¾	12 16
April 1 .....	70	70	82	7	12¾	10 33
May 1 .....	75	71	86	7	13¼	7 39
June 1 .....	66	70	73	7	13¾	9 73
July 1 .....	64	70	62	8	13¾	12 16
August 3 .....	66	71	68	7	13¾	*17 03
August 31 .....	62	70	68	7	13¾	15 78
September 28....	57	57	71	7½	12¾	17 00

\*New.

NOTE.—These averages are official. They are translated into United States equivalents at the par value of the pound sterling (\$4 86<sup>55</sup>/<sub>100</sub>), and in bushels of 60 pounds each. English wheat has for its unit the quarter of 504 pounds; English barley, the quarter of 448 pounds; flour, the sack of 280 pounds; beef, the London stone of 8 pounds.

These tables are, as the Secretary says, of great value to the American farmer, and they further illustrate the fact that the price of wheat is now and must always be governed by the relation of supply to demand.

Since September, 1894, there has been a slight advance in English prices, nearly equal to the highest point reached in that year, which fact gives a little encouragement, although we have grave doubts as to their permanence.

Further deductions from this valuable report show that the United Kingdom of Great Britain took in from foreign countries, during the nine months shown in tables, 9,000,000 bushels more wheat than during the same period in the year previous; but the increased shipments of wheat into England were principally from Russia, Argentina, and Australasia. During this time, the report says, the United States did not maintain its position as a wheat seller in England. In those nine months the

American product fell short 13,000,000 Winchester bushels, with a valuation reaching over \$8,000,000. The primary cause thereof was that Argentina was a free seller, while our people maintained figures a trifle above the English market. America cannot hope to compete with Russia, Argentina, and Australasia in the production of breadstuffs, nor can we expect sales in the world's market, except on rare occasions, when failures come in any of these large wheat-growing countries. The Argentine Republic alone is capable of placing 35,000,000 bushels of wheat annually on the European market, and, like Russia, has her wheat fields adjacent to tide-water, with but a short haul to seaboard.

California, by reason of climatic advantages, which permit the use of improved methods and machinery for tilling the soil and harvesting cereal crops—methods which are applicable to no other country of the globe, save, possibly, the Argentine Republic—can produce wheat cheaper than any of the great wheat-growing States of this Union. But notwithstanding this, prices have been below cost of production, which fact—and there seems to be no likelihood of a permanent change for the better—will bar future cultivation in California of this great cereal as an article of export.

We find, however, from the same source, that there is a steadily growing demand for barley for export. In 1894 the shipments of barley to the English market were 18,000,000 bushels more than the shipments to the same country in 1893. Of course, this refers only to high grade brewing stock. The hard, firm, and bright grain barley from the Northwestern States and California commands higher prices than the European article. The barley acreage in the United Kingdom averages about 2,250,000, with an average yield of about 75,000,000 bushels. The average acreage in California is nearly 1,000,000, with a yield of 20,000,000 bushels. The records of exports show that the American product above referred to has been steadily gaining favor for the past seven years. The average price is about 78 cents per bushel of 56 pounds. California malting barley is rated as one of the highest grades, and the English market should take a volume at remunerative prices.

The American farmer must no longer look to wheat as a profitable crop; he must turn his attention to more fruitful resources. It is useless to hope against hope, and the sooner the issue is squarely met the better for all concerned. It is difficult to contemplate the change from days past, when the California wheat-grower was a baron. He surveyed his possessions by the thousand-acre tract. His lands were producing, under prices of those palmy days, interest upon values that dispelled computation. An offer of purchase was repelled with vigor, and it is the inspiration of this spirit that binds him to the vocation in these dark days. We say to these owners of large areas, cut up your holdings into small tracts and sell off some at such prices as can be obtained, sowing or planting the remainder to crops that will warrant cultivation without enormous expense. For the past four or five years these holders of large tracts of land have been carried along, as a rule, by a class of itinerant farmers designated as "renters," who believed that without investment of money in lands they could obtain a fair livelihood by farming upon "shares." With sufficient (or insufficient, as the case may be) stock and implements, they made contracts to seed to wheat such acreage as the owner would rent. By this method the owner secured some returns from his vast possessions. But now the "renter" is bankrupt, by reason of exhaustion of stock and implements,

and as he only made a scant living during his period of occupation, he is without means to replenish his plant; hence, the land is back on the owner's hands, and for what use? He must start anew, and now is the time for him to consider the class of farming he will follow. He must, without any equivocation, reduce his acreage, because no crops that are now grown will warrant a plant necessary for extensive farming. His product should be just what he can handle with the least possible help.

#### THE CONDITION OF AGRICULTURE IN CALIFORNIA.

This office recently caused to be sent out over sixteen hundred inquiries, reaching every township in the State, relating to the condition of the farming community for the past three seasons. The inquiries embraced questions as to value of stated products on the farm on December 1st, of 1893-4-5; as to wages of farm hands, blacksmiths, and carpenters; as to values of improved lands and of orchard land (bearing and unbearing), in every county in the State. The table will be given in full in this volume, and will make an interesting study. By it there may be seen the proportion of reduction in prices of all farm products, and to what extent each year. Wages of farm hands have shown a marked reduction, while those for skilled labor have not been as great. Land values, as returned by the correspondents, have not decreased in the proportion generally thought; but the values given would be shaded to a considerable extent by bank surveyors. The prices for products on the farm speak plainly as to the condition of our whole farming system. There is no disguising the fact that thorough reorganization of farming methods is needed. The cities, through their property-owners, their merchants, their capitalists, must sooner or later take hold of the question of agriculture. The depression in this noble following will not be felt by the cities until it is too late to apply a remedy. It is agriculture that in a great measure keeps the business centers supplied with goods. With the advance that has recently been made in manufactured commodities, and the decline all along the line in agricultural products, the time will soon arrive when re-adjustment will be necessary. Our opportunities and possibilities in an agricultural sense are beyond computation. Over-production is claimed to be the cause of depressed prices; however, it is not so much that, as it is the decreased earning capacity of the consumer, brought about by a lack of confidence in nearly every avenue of trade. The moneyed interest will not launch boldly into commercial and other ventures for many reasons. It was their distrust that caused the panic of 1893, resulting in the uniform calling in of loans. Every borrower was called upon to make settlement forthwith. Those who could, by abandonment of enterprises, sacrifice, and sale of property, did so. In many cases enterprises that required large amounts of money to successfully carry them forward, were, by this decided movement on the part of the capitalist, compelled to suspend operations, and thus received setbacks from which recovery will be necessarily slow. In fact, everything stopped; the wheels of commerce became clogged; people were discouraged by having their hopes and ambitions thwarted, and a general stagnation followed; banks soon became overflowing with money; the products of the farm fell to ruinous prices; reduced values invited foreclosures, and the calling of agriculture suffered immeasurably. One of the principal causes for this setback to the agricultural classes was the fictitious values at



which lands were held. The rapid stride taken in fruit-growing, by reason of the endeavor to produce more valuable crops, and the great promise based upon introductory returns from early shipments, caused a stampede in this direction, and the result was lands shouldered speculative values, and money was loaned on these values. When reverses came the land would not sell for the graded values upon which loans were made. The savings banks are overburdened with loans, many of which cannot be realized upon, for the mortgagor is without sufficient returns from products to pay interest and taxes, to say nothing of principal. Hence the necessity of a general round-up, and the growing of subsidiary crops upon small holdings. The capitalist cannot live without the producer, and the latter needs the former; and right here comes the problem of capital and labor. The dictates of labor have in a great measure stopped the investment of capital, and its seclusion has about ruined labor. A medium that will harmonize these great factors is now greatly to be desired. How this harmony can be brought about is a question that must be solved by greater minds than ours. It does not seem as though the present condition of affairs can continue much longer, yet it has lasted, we know, for three years, and unless a change for the better soon comes, we will all have to return to first principles, and begin under a new system. There are many avenues for investment when confidence shall have again been restored, but without this all-important agent we cannot hope for a change in business affairs.

One thing the farmer must certainly do is to get out of the old wheat-raising rut. There are many subsidiary products of the farm that will, even at this time, return a good living. Why are the consumers of poultry and eggs compelled to rely upon importations from other States for supply during six months of the year? Simply because of a lack of attention to the "chicken business." In the palmy days of wheat-growing it was beneath the dignity of many farmers to bother with chickens; these products were left to women of the family to trade for muslins at "the store." Now, poultry raised in the East is shipped from one to two thousand miles and sold in open market at higher prices than our own product. Over 2,000,000 dozen of eggs from east of the Rockies have been received and sold in this market during the year just closed, and for which the producers received an average of 8 cents per dozen; to this add 8 cents for freight and commission; thus the market price may easily be fixed at from 20 to 25 cents per dozen. An offer of less than 10 cents per dozen to the average California poultry-raiser is considered not worthy of answer. An assurance of 10 cents per dozen the year through would make a neat return on two hundred or three hundred good layers. The same argument applies to table poultry. With a freight tariff of at least \$1 per dozen, Eastern poultry sells rapidly. Recently a consignment of 4,000 fowls, shipped from the State of Kansas, was received in one of our cities and sold at prices satisfactory to the shippers. Wheat will never again sell in California for \$2 to \$3 per sack, and the sooner our farmers of the "old school" realize this and devote some attention to truck farming the more prosperous they will be.

#### OUR FRUIT INTERESTS.

A reduction of over 80 per cent in returns from wheat exports, or, in plainer words, from \$43,000,000 returned into this State as the value of wheat exported in 1882, to \$8,000,000 returned in 1894, is a gap which, if

it had not been filled, or partially so, by other resources, would have left this State in a most ruinous condition. Happily for us, this great shrinkage was, in a measure, counterbalanced by an increase in the products of our orchards. In 1882 the shipments of fruit were as follows:

*Shipments in 1882.*

	Pounds.	Value per Pound.	Total Value.
Fresh fruit .....	7,919,340	2 cents	\$158,386 80
Dried fruit .....	4,532,350	12 cents	543,882 00
Raisins .....	865,770	12 cents	103,892 40
Canned fruit .....	25,163,190	1 cent	251,631 90
		Boxes.	Per Box.
Citrus fruit .....	262,500	\$2 50	656,250 00
Total value .....			\$1,714,043 10

In 1894, we show a considerable increase from the orchard, the shipments being:

*Shipments in 1894.*

	Pounds.	Value per Pound.	Total Value.
Fresh fruit .....	179,574,800	1 cent	\$1,795,748 00
Dried fruit .....	102,510,800	6 cents	6,150,648 00
Raisins .....	93,826,400	2½ cents	2,345,660 00
Nuts .....	7,829,000	6 cents	626,320 00
Canned fruit .....	105,325,200	½ cent	526,626 00
		Boxes.	Per Box.
Citrus fruit .....	1,792,384	\$2 00	3,584,768 00
Total value .....			\$15,029,770 00

The State Agricultural Society, through its reports in 1882 and for years before, kept encouraging the systematic planting of deciduous fruit trees, with the idea of increasing the productive capabilities of our State, and with the further idea in mind that in case our revenue derived from the export of grain—the then leading staple—should be materially lessened, by drought or other cause, the State would not be left barren of returns. It is this same spirit that now actuates us in the development of additional resources.

As results have since shown, it was a most fortunate occurrence that such rapid progress was made in the growing of fruit. The year 1882 gave us the largest wheat export ever made from California, and at prices that have never since been reached, but, on the contrary, have steadily declined until they were 50 per cent less in 1894. (Comparisons are made with this year for the reason that it was in 1894 that the lowest prices in the history of wheat-growing prevailed.) To meet this heavy decline in returns from wheat, was the phenomenally large increase from our fruit industry. At this time we have about met the demand for fruit, and we deem it inadvisable to further extend the planting of new orchards until an increased market is assured, as the trees now in full bearing, and those that will come into bearing within the next few years, will supply all ordinary demand. We consider it better to extend other agricultural possibilities than to cripple those now on a paying basis. In this report we have mentioned other products that will bear extension, and thereby overcome a condition that would tend to reduce farming to a struggle for existence. A preventive is to direct our attention to such products as will warrant stimulation and consequent extension. The cultivation of sugar beets and tobacco, truck farming, the raising of poultry, and dairying offer better inducements at this time than does the further extension of the fruit industry.

## THE CALIFORNIA FRESH FRUIT BUSINESS FOR THE SEASON OF 1895.

The fresh fruit shipping business of 1895 opened out very encouragingly. The fruit-growers had every reason to believe that the season of 1895 would prove the most profitable in several years. On the one hand, the transportation companies had reduced the rates on refrigerator cars from \$35 to \$50 a car; the Southern Pacific Company had reduced the local charges from non-terminal points about 40 per cent, and had arranged for a five-day ventilated car train to Chicago. On the other hand, the leading growers and shippers had organized the California Fruit Shippers and Growers' Association, for the purpose of issuing daily bulletins so as to prevent the glutting of markets, and had arranged for the establishing of a consolidated auction salesroom at the various Eastern auction points, for the purpose of preventing the fruit, as in the past, from needlessly being brought into competition with itself and for the further purpose of making these consolidated auction salesrooms free and open to all buyers, so that the growers would get the benefit of the fullest and freest competition among all the buyers in the various Eastern markets.

The first disappointment that met the growers was late frosts, which reduced the crop at least one third. Some consolation, however, was found in the fact that similar misfortunes had overtaken many Eastern fruit districts, especially the grape districts; and the feeling prevailed that, owing to the short crops East and West, the diminished California supply would bring unusually high prices, thus compensating for the loss of fruit by frosts.

The second disappointing feature was brought about through a split among the growers and shippers, resulting in a disaffected element starting a rival auction salesroom in New York and Boston, thereby defeating the purpose of bringing all buyers in one market under one roof in order that the grower might realize the full value of his fruit. This split among the shippers and growers perpetuated some of the grave evils of the past, and thereby materially lessened the results that growers otherwise might have received.

The third disappointment of the season lay in the fact that the ventilated car train to Chicago did not prove available. Experience developed the fact that the ventilated cars could be used only to advantage for very hardy fruit going to Chicago and markets west thereof. It was found extra hazardous to send the more perishable varieties in ventilated cars to the Atlantic markets, and even to Chicago; and so the refrigerator charges, which the growers had hoped to save by use of the ventilated cars, were continued, though, as previously explained, at a somewhat reduced rate.

For the season of 1894 there were shipped about 6,500 cars of fresh fruits. This great quantity (much of it shipped indiscriminately, as the result of lack of information on the part of the shippers as to what was in transit) led to the serious glutting of the markets. This, together with the great railroad strike during the month of July in that year, so utterly demoralized conditions that the season of '94, as a whole, proved highly unprofitable to all growers and disastrous to many.

The shipments of 1895 aggregated about 4,500 cars, a decrease of over 30 per cent as compared with the preceding year. This fact, together with the further fact that there was no railroad strike to interfere with transportation, and with the still further fact that the California Fruit



Growers and Shippers' Association successfully issued during the entire season a daily bulletin, which was distributed among the shippers, and which contained a report of the fruit in transit to the various markets, thus enabling shippers to a large degree to avoid glutting the markets—as the result of all these facts, the price realized per pound in 1895 was materially higher than in 1894. Had it been possible to secure a unity of action among the shippers and growers so that a consolidated salesroom, free and open to all buyers, could have been maintained in the Eastern markets, the prices realized by growers and shippers would have been materially better.

At the State Convention of Fruit-Growers, held during the month of November, 1895, in Sacramento, under the auspices of the State Board of Horticulture, the question of establishing consolidated salesrooms at Eastern auction points was thoroughly discussed, and resolutions were unanimously adopted calling upon the shippers to coöperate with the growers in carrying out the plan of consolidated salesrooms. A committee of seven was appointed, with instructions to invite representatives from the various conflicting elements to come before them with a view of harmonizing and adjusting existing differences, in order that the plan of consolidated auction salesrooms shall be put into effect during 1896. If the committee of seven succeeds in its work, and consolidated salesrooms, where all the fruit and all the buyers and all the sellers will be brought together under one roof, will become an established fact, a great stride will have been made in the direction of successful marketing of California fruits in the East.

#### OUR DAIRY INTERESTS.

The Oriental markets for our dairy products are at our door, and stand in waiting for us to supply their requirements in this line of trade; but if the great Northwest be permitted to come through our gates and supplant us we can only blame ourselves.

San Francisco port ranks third in the export of dairy products to foreign countries; New York and Boston are respectively first and second in rank. The output of butter and cheese from this port for 1895, as shown by custom-house figures, was as follows:

*Butter and Cheese Exports from San Francisco for 1895.*

To—	Butter.		Cheese.	
	Pounds.	Value.	Pounds.	Value.
British Columbia .....	44,533	\$7,195	5,870	\$709
Hawaiian Islands.....	105,518	19,127	63,010	7,150
Japan .....	71,707	12,997	16,362	1,808
China .....	15,866	2,149	31,030	3,317
Hongkong .....	19,470	3,199	16,755	1,869
French Oceania.....	22,459	3,997	16,788	1,866
Mexico .....	18,601	3,018	23,470	2,484
Guatemala .....	13,155	2,292	20,435	2,395
Salvador .....	2,830	531	6,523	759
Costa Rica .....	16,885	2,903	3,786	405
Nicaragua .....	60	12	2,210	269
Honduras .....	1,170	207	2,983	398
Other Countries.....	78,805	13,554	61,879	4,465
Totals.....	411,059	\$71,181	271,101	\$27,894

At a value of nearly \$100,000—about \$20,000 less than for the year previous. The possibilities of extending the trade in California dairy products to other countries bordering upon the Pacific Ocean, should spur our people to action, and to see that this trade is held by the producers of this State. No adjunct of farm life offers more inducement for further development and extension than does the dairy business, if properly conducted, and no other industry of this State invites the attention of capital with the assurance against loss that is guaranteed by this interest. Its possibilities are without limit. The natural conditions of soil, climate, and surroundings for the promotion of the dairy interests are not equaled in the most favored countries of the world. The inexpensive manner in which dairying may be carried on in California as compared with the methods practiced in the Eastern States invites attention. Along our river courses in the Sacramento Valley, and in the great irrigated districts of the San Joaquin Valley and Southern California, is the natural home of milk-producing forage. It is here alfalfa makes luxuriant growth, as do sugar beets, mangels, squash, corn fodder, corn in ear; in fact, all kinds of vegetables and roots. These, with our surplus wheat, which, either in the rolled or the crushed state, makes the most nutritious of grain rations, are all so cheaply produced; which fact, taking into consideration the advantages of natural pasturage for twelve months in the year, and our mild winter season, requiring no extra provision in the way of housing, etc., makes this State a dairyman's paradise. Then again, this climate promotes animal growth and early maturity, for heifers come into use under twenty months. These advantages should not be overlooked.

This interest needs organization and coöperation. There should be an organization of milk producers in each county in the State. Mr. Tomasini, a member of the State Dairy Bureau, has aptly said: "The creamery is the only salvation for the California dairy industry." By this method the small producer will be benefited, as a market for all surplus milk will be created. There is not one farmer milking cows but who would profit by the location of a creamery in his vicinity. This system increases the quality of the product, as all purchases are made upon tests. Each farmer supplying milk should be a stockholder, thereby having a direct interest in the proper management of the concern.

The formation of a "producers' milk company" in localities of easy access to the larger cities, whereby milk could be furnished direct to consumers in neatly sealed jars, bearing the label of the company, and sold with a guarantee as to its purity, is one of the possibilities of dairying in California. Here is an undeveloped field for investment, with the additional advantage of not being an experiment, as the idea had its origin in Denmark, where the Copenhagen Milk Supply Company maintains just such a system, which will be found fully described in Bulletin No. 5 of the United States Bureau of Animal Industry. A plant under similar management, and known as the Producers' Milk Company of Rochester, N. Y., was organized in 1893, and is reported as being a success in every particular. We have written them for particulars, and hoped to have a full description of their plant in this book. This company sells pure milk under a guarantee of 25 per cent cream; also pure butter done up in neat and tasty packages, as well as ice cream, delivered direct to the consumer. By their system of organization the

producers are stockholders, from whom the milk is purchased, under a test, by the one hundred pounds weight, and the price paid ranges from \$1 10 per hundred in summer to \$1 30 in winter. At stated periods dividends are declared, and the returns show the producer to have received from  $2\frac{1}{2}$  cents per quart in summer to 3 cents in winter, which price is satisfactory to the sellers by quantity. No reason exists why the large cities and towns of California could not be similarly supplied by responsible milk companies. Such a plan would benefit the producer, and be a blessing to the consumer. This is an avenue for organization and investment; it is a field practically undeveloped, and one in which the possibilities are limitless. Nothing would better promote improved breeding and sale of high class stock than a few organizations of this kind in our State. There could also be maintained, in connection therewith, a cold storage plant, whereby the surplus of summer butter that sells from 12 to 14 cents per pound could be kept for the 35 and 40 cent market of the winter. This system need not be confined to butter, but could include chickens, eggs, and other farm products that glut the market in summer, and for which in winter there is a steady demand at good prices.

The San Francisco Board of Health have our lasting gratitude for their earnestness in bringing to light the atrocities practiced by the average vender of milk in that city. In Inspector Dockery they have selected a faithful and fearless official, whose acts in the fulfillment of his duties should receive proper recognition from the authorities of San Francisco. The showing made by this official of the adulterations of milk, to say nothing of the filthiness practiced by the so-called milkmen of that city, brings home to all the necessity of reorganization of the method of supplying milk to customers, and to our mind such an organization as we have referred to should be formed at once. It would be a boon to the farmer and stock-raiser. Unless our citizens take advantage of the chance now offered, the opportune time will pass and we will be compelled to use foul milk instead of the healthy article so necessary to human life.

As to the future of the dairy business, we cannot more aptly express our mind than by quoting from a contributor upon this subject, to this volume. He says: "Improved methods must take the place of the happy-go-lucky ways of the past. Our farmers will have to learn the true economy of judicious high feeding and good care. A cow which, on light feed, will barely pay expenses, may, by properly increasing her feed, register a profit. Improve your breeds by the use of thoroughbred sires of good quality and useful ancestry. Study markets and more advantageous methods of use and sale of your products. Be scrupulous as to purity. The real dairyman should be a deadly enemy to all kinds of adulterations of food, all sophistication of products, as both are done at the expense of the farmer, whose voice should be raised at all times and places in favor of pure foods. To successfully conduct the dairy business a man should be a breeder, a feeder, a manufacturer, and a merchant. It is a business that requires a high degree of intelligence, as it tends to promote thought and study."

The increase of dairy products is one of the best indications of a prosperous community, and its extension is sure to invite means for the care of its output. As referred to elsewhere in this article, cold storage of the surplus summer products for winter sale is bound to be the next move as an adjunct of this industry.



## TOBACCO.

It is not generally known, but it is nevertheless a fact, that California has within her boundaries more land adapted to the culture of tobacco than all the tobacco-producing States east of the Rocky Mountains, and more particularly is this true as to the production of the kind known as cigar leaf, a variety that has made Connecticut famous; the climate is also peculiarly well adapted to the curing of the Havana seed leaf. The coast counties are more especially the favored section for the growth of aromatic tobaccos, while the Sacramento and San Joaquin Valleys will abundantly grow the class known as Virginia, North Carolina, and Kentucky tobacco. The grower, however, needs proper guidance (which is easily obtained) in the growing and curing of this plant. Soil analysis is necessary, so that the character of seed to be planted may be known; then comes the preparation of seed-beds, and their care; then the tilling of the ground for receiving the plants, and the knowledge of proper time to set them out. Instruction is also needed as to cultivation of the plant to maturity; then the cutting, curing, and packing for market. From those who have been engaged in this industry we are most credibly informed that it is very remunerative, and will warrant close study, and should be, by reason of our climatic conditions, one of the leading crops of the State. But, like many other undeveloped resources, it is allowed to remain dormant for want of concentrated effort in pushing it. Mr. J. D. Culp, of San Felipe, Santa Clara County, who is one of the oldest, if not the pioneer tobacco-grower of California, and who has made marked success in its cultivation, we are informed, stands ever ready to give beginners the advantage of his methods and experiments. Mr. Edgar Briggs, of 614 Page Street, San Francisco, is another pioneer in this industry, and has kindly consented to aid its extension by preparing a practical paper upon the subject, for publication in this volume, and which will cover all the points necessary for any one who may desire to experiment in tobacco culture.

The year-book of the United States Department of Agriculture for 1894 gives much data upon the adaptation of soils to the different varieties of tobaccos, and in that connection says: "Tobacco can be grown on almost any well drained land that will produce Indian corn. But climatic conditions and the texture and physical properties of the soil so greatly modify the development of the plant as to determine the distribution of the different classes and types." Hence, the adaptability of the soil to the character of tobacco to be planted is an essential factor.

As all this information and instruction are obtainable with but little effort, there should be no hesitancy in planting tobacco throughout such portions of our State as invite its culture. It is one of the subsidiary crops that could be taken up, we are sure, with profit.

## SUGAR BEETS.

The large area of land in California susceptible to sugar beet culture, and the vastly improved methods of handling this prolific root in its transformation into sugar, warrant the State Agricultural Society in again urging its cultivation. This Society, many years ago, advanced the opinion that the raising of sugar beets would be one of the most profitable crops for the farmers of this State, and gave reasons therefor.

Beet culture was entered upon, and a factory established at Sacramento, which proved a failure, for the reason that the proper machinery and methods were not used. But now that it has been demonstrated, by improvements in both methods and machinery, that the high percentage of sugar contained in this particular variety of beet can be profitably extracted, the grower has substantial facts to warrant cultivation of this valuable product. In the place of three beet sugar factories, California should have twenty. The extent of acreage in this State available for beet culture warrants that number.

The tests made under the direction of the United States Government, to ascertain the number of tons of beets necessary to procure a ton of granulated sugar demonstrated that beet sugar could be produced cheaper and better in California than in any other State in the Union. The tests covered the years 1891-2-3 (the years in which the bounty was paid), and it was shown that at the Chino factory 6.56 tons of beets returned 2,000 pounds of sugar; that at Watsonville, 8.40 tons, and at Alvarado 9.09 tons of beets produced a ton of sugar. Experiments made by direction of the same department show that a very large proportion of our valley lands are adapted to sugar beet culture, and that they will produce from ten to twenty tons of beets to the acre.

At \$4 per ton, the ruling factory prices of last season, a profit of from \$1 50 to \$2 00 per ton has been returned to the producer, with prospect of increased yield and correspondingly greater profit per acre. What California most needs is the development of her industrial capacity. Her citizens are not looking to this with the vim characteristic of other countries. In Europe, the tendency is to create new industries, and encourage the full development of her resources for the benefit of her large population, and with commendable results. In the matter of this very subject—the growth of sugar beets—there has been a remarkable stride within the past few years—more so there than in any other portion of the globe. The six leading European sugar-producing countries have, during the past ten years, increased their acreage in sugar beets as follows: Germany, from 780,836 acres in 1884, to 1,089,711 acres in 1895—an increase of nearly 40 per cent; in Austria-Hungary the increase of acreage was 44 per cent; in Belgium the largest increase is found, being 121 per cent; in France, 59 per cent; in Holland, 61 per cent, and in Russia, the smallest, 5.6 per cent, on the respective areas of 1884. It will thus be seen that the extension has been general throughout these countries, which action was certainly warranted, to supply the demand. As shown by the United States reports on the marketing of American products, Belgium, in proportion to her population, produces more beet root sugar than any other country of Europe. In 1893, with a population of but 6,262,272, she had 121 beet sugar factories, or one factory to every 51,750 inhabitants; while Germany had but 405 factories to 50,000,000 people, or one factory to every 125,000 inhabitants. At that rate, California, with her 1,200,000 population, and with a territory to supply that is peopled by 65,000,000 souls, could easily maintain, with the producing quality of her soil, twenty factories at least. Since 1888, the sugar produced by Belgium has doubled. They are not slow in that country to recognize their advantages, and unless the people of this State rise to the situation, the development of many of our dormant resources will be left to the next generation. As Director Gird truly says, in his recent paper upon the subject of sugar beets: "We find here in Cali-

ifornia, all those natural conditions by which the sugar beet was enabled to come into existence in its original home; such as a mild, dry climate, deep alluvial soil, and long periods of sunshiny weather, which will eventually cause it to become one of the great economical and industrial products of California."

Our united efforts must be used in a manner to induce re-arrangement of present trade conditions whereby our product will have extended territory, or a reduction in the Hawaiian import.

The beet-sugar output of the California factories for 1895 is estimated to be as follows:

Chino factory .....	22,000,000 lbs.
Watsonville factory .....	21,890,000 lbs.
Alvarado factory .....	5,400,000 lbs.

Taking the average price for refined sugar at the "four ports," 4.152 cents, as quoted to the trade by Willett & Gray, of New York, the sugar output of California for 1895 would amount to \$2,046,520. The factory prices are not obtainable, but are probably a little less than the figures quoted.

To diversify crops the most intelligent methods must be resorted to, and in no better way can the farming community obtain this education than by practical experiments as to the capabilities of the respective soils. There is no question but that there is a vast amount of land farmed in this State annually at a great loss; that is to say, one half the amount of work, care, and attention put upon land of a better quality would yield more profitable returns. We have good land in abundance, and which should be worked upon an intelligent basis, thereby making every acre a paying proposition. The sooner the workers of the poorer soils abandon them, and turn them over to grazing purposes, and, either by purchase or rental, secure a small tract of number one land, so much sooner will they find themselves prosperous. The continuous farming of poor land will make beggars of the wealthiest. The chief reason why some farmers are more prosperous than others is they use better judgment in selecting land and working it. Intelligence is the great quality needed by the soil-worker, and when you find a successful farmer you will find an intelligent man. You will find that he "reads up"; analyzes public questions relating to his calling; keeps informed as to the supply and demand of the product he is engaged in growing—if new methods of handling it are discovered, he knows of them, and takes due advantage thereof; if new products are developed, he is aware of them and makes the most of such things. All producers should keep read up on everything pertaining to their calling. The annual reports and other publications of the United States Department of Agriculture should be studied by all engaged in agricultural pursuits. These documents are for this purpose, and any citizen can obtain them without cost by addressing the Secretary of Agriculture, asking that his address be placed upon the mailing list. The information these publications contain is obtainable in no other way, and will be found interesting to the farming community in general.

In their endeavor to properly enlist the attention of the farmer to the great value of the sugar-beet industry, the Sacramento Bank, a corporation of this State, has compiled and published a pamphlet reciting all recent information upon this subject, and has distributed thousands of



copies throughout the State. The issue having become exhausted, and as the demand for it still continues, which is evidence that farming communities are seeking all the light possible whereby their calling may be made profitable, and recognizing the great value of compilations of this character, the State Agricultural Society has decided, with permission of the authors, to republish extracts from the pamphlet. It will be found further on in this volume, and in this way it will be preserved for reference by any one desiring most accurate information upon the sugar-beet industry.

#### WEATHER SERVICE.

The Weather Bureau branch of our department is of much value, not only to the people of our State, but also in enlightening the outside world as to our grandeur in a climatic sense, and calling attention to our incomparable qualities as a resort for the invalid and the pleasure-seeker and as *the* place for those who are searching for homes away from the East, where three to five months of severe winter weather must be endured.

This branch of the California State Agricultural Society, under whose liberal aid and hearty coöperation with the United States Weather Bureau Department at Washington, D. C. (Prof. Willis L. Moore, chief), it has always been maintained, has grown in popularity from the time it was inaugurated by the present Secretary, in the fall of 1881, until at the present time it has become one of the actual necessary attachments of this Society. It was through the medium of this Society that the California State Weather Service was fostered and brought from its infancy, in 1891, to the present efficiency and popularity, under the able management of its original and present Director, James A. Barwick. In fact, the value of this weather service is so great that, to consult the climatic features and collected data of this State since 1849, all must come to the files of our Society's annual reports, which teem with climatic data representing nearly every county in the State.

The Weekly Weather Crop Bulletin, which was inaugurated several years ago by the California Weather Service, and issued by this Society in coöperation with that Service, continually grows in favor, and is republished in full in the "Daily Bulletin," "Weekly Rural Press," "The California Fruit-Grower," of San Francisco, and the "Record-Union" of Sacramento, while the weekly press of the State are full of quotations from the crop bulletins. The summary of each bulletin is furnished to the Press Association agents, who send it broadcast over the land on each Monday evening, to appear in the papers on Tuesday mornings.

Since the United States Weather Bureau Department, Washington, D. C., has established a forecast station in San Francisco (to which place has been appointed some of the most expert forecast officers), the value of such forecasts to the various industries of our State has been great. In September, 1895, occurred the heaviest rains ever known in this valley for that month. This unprecedented moisture would have caused much damage to the raisin industry of this State, if a fore-warning had not been issued by Mr. Hammon, the forecast officer stationed at San Francisco, several hours before the rain began. This single warning was worth thousands of dollars to the raisin-growers of

this State; in fact, it saved more than will be required to maintain every Weather Bureau station on this coast for five years to come.

We are proud to inform the people of this State that the good results of our coöperation with the United States Weather Bureau Department in the printing and distribution of this weekly and monthly meteorological and crop data are now made manifest by the very frequent inquiries, asking for copies of reports of any kind published. From almost every civilized country in the world we have acknowledgments of the receipt of our weather data.

Beginning in October, 1895 (in which month we stopped issuing the Weekly Crop Bulletin for the past season), we inaugurated, through Director Barwick (the meteorologist of this Society), the issuance of a Monthly Weather and Crop Bulletin. Letters are received from people in all portions of the valley where crops grow, and from the data thus obtained a sheet about 18 inches long by 9 inches wide is issued on the 6th or 7th of the month following that for which it is the record. This additional service has been well received, especially by the people of the East, as this State and Oregon are the only ones that are now or ever have been publishing this monthly data in sheet form.

#### OTHER AGRICULTURAL ITEMS.

Nothing could better illustrate California's diversity of climate than the simultaneous holding, during the past month, of a Citrus Fair, in the central part of the State, whereat is shown all the fruits of the Tropics, and of an Ice Carnival in the eastern portion. This fact also indicates various conditions of soil, capable of producing an assortment of products.

The possibilities are favorable for an extension of trade in many agricultural and horticultural products. The fruit-grower should look more closely to the packing of the dried product. This class of fruit should be graded, and sold in boxes of from 5 to 50 pounds in weight. Some opposition to this may be made temporarily by the jobber who works over and re-handles our dried fruits, but when he finds that all the superior fruit is being sold in original packages, he will be compelled to handle what the consumer requires. In the extension of trade in our products it might be suggested that there are inducements here for the manufacture of citric acid from the inferior grades of lemons; also grape sugar, and extracts of all kinds. Broom corn is another product that we import, and pay \$100 per ton for, when any of our river lands will produce a superior marketable article. Condensed milk is brought from Michigan, and shipped from the port of San Francisco to the Pacific Ocean trade. The meat-curing industry could be extended with profit, thereby diminishing the export of this highly essential article of commerce. There are, in this State, many other avenues for the safe investment of capital, if proper encouragement be given. What we need is that our own citizens should take the initiative in the organization of those industries that will tend to extend our agricultural possibilities.

The sales of California thoroughbred stock still continue with satisfactory results. The public sales of yearlings in 1895 amounted to \$120,000. Ninety-five head from one farm sold in the New York market for \$70,250—an average of \$739 per head. The breeders of this class of stock are required to invest a much larger amount of money in their

plants than is generally supposed. First, they must have the pick of producing sires, whatever the cost; then, a selection of high-class brood mares from the most prepotent strains of racing blood, from producing families, which signifies a value of from \$1,000 to \$10,000 for each matron; it is also necessary that the breeder should keep up with the most fashionable producing blood of the day. Then, again, much risk is taken in the proper mating of animals. A grandbred horse, from a great family, for which a high figure has been paid, is as likely to be a failure in the stud, unless properly crossed, as is one of obscure breeding. Hence, it is very evident that both intelligence and study are essential qualities in the make-up of the manager or owner who can derive successful returns from this interest. Actuated by a desire to have the best, our citizens have gone further and paid higher prices for the sires and dams that go to make up our celebrated stock farms than any other class of breeders in the world; and it is upon these farms that are to be found the very best. The money invested in thoroughbreds and stock farms in California exceeds in amount that put into the same business in any other State in the Union. California has the credit of being the home of the highest-priced stallion in the world—Ormonde—for whom \$150,000 was paid by one of our breeders. Among the principal thoroughbred-stock farms may be mentioned Rancho Del Paso, Palo Alto, Santa Anita, Rancho Del Rio, Elmwood, The Macdonough, The Spreckels, The Burke, The San Mateo, The Laurelwood, Rosemeade, Antrim, and Hope Glen, which carry a total aggregate of one thousand brood mares, and are the homes of such celebrated sires as Sir Modred, Ormonde, Midlothian, Salvator, Tenny, Darebin, Maxim, Brutus, Islington (brother to Isinglass), Gano, Grinstead, Racine, Flambeau, Surinam, Emperor of Norfolk, Suwarrow, Crighton, Peel, Apache, Shannon, Argyle, Cyrus, Mariner, Verano, Duke of Norfolk, and others. It is plain to be seen by the well informed that the thoroughbred business in California runs up into the millions in value, and should be encouraged in every way, and especially protected against adverse legislation.

#### THE EXHIBITION OF 1895.

The interest manifested by the public in the annual State Fairs held under the direction of the California State Agricultural Society is certainly not on the wane, as judged by the attendance of both exhibitors and spectators at the annual fair held in 1895. Each season seems to bring out a most noticeable increase of interest on the part of the people. The list of exhibitors was large, and the character of exhibits at both Park and Pavilion showed great care in their selection and arrangement. There is no denying the fact that the State Fair of California is essentially an exhibition of the people. It is made up through the exertions of public-spirited citizens, who are alive to the necessities of the age. Through this exhibition our people are made familiar with home products, and the home markets are enlightened as to our capabilities. This exhibition is one that Californians may well feel proud of, as no other State in the Union can make a more general showing of products than is to be seen at our annual fairs. Our producers show renewed interest each season by their efforts (and at no little expense) to outdo the previous year in making known their capabilities to supply the wants of the consumer.



The inimical feeling made manifest at times against State exhibitions comes from those who do not take part in them, and who are actuated by a pessimistic prejudice against public enterprise in general. It is this class that harps about the paltry \$20,000 appropriated annually as aid to this institution. They evidently do not know, or certainly do not consider, the use to which this money is put; in their judgment "it's just wasted." This appropriation is used, like any other bounty, in rewarding the industrious and in encouraging activity in agricultural pursuits. This amount is trebled by adding to it from the resources of the institution, the whole being used in maintaining the annual fairs upon a plane in keeping with the standing of the State. It is this class of fault-finders that hopes to weaken an institution that has stood the tempest of criticism and abuse of malcontents for just forty-two years, but which is now more prosperous than ever. If it had been mismanaged its condition would be the reverse.

The amount of good this Society has done and is doing for the State offsets a hundredfold the appropriations made to it. Its value to the stock interests alone is beyond calculation. An incident of the last State Fair may be here recorded to show that even the racing department is of some value to the breeding interests of California. Mr. William Boots and Son are owners of the Elmwood Stock Farm, situated in Santa Clara County, where the elder Boots has been a soil-worker since the pioneer days. As an auxiliary to the farm, he added a few thoroughbred mares of the earlier California types, more as a diversion of interests than for profit. After his son grew to manhood this department of the farm was turned over to his management. This naturally made the young man a close student of blood lines and family lineage in the thoroughbred world. Knowledge thus gained enabled him, in casting about for a sire, to select one from an ancestry that would nick with the mares on the farm. It was from the famous Palo Alto farm that Mr. Charles Boots made selection of the now well-known sire, imp. Brutus, a son of MacGregor, one of Macaroni's best producing sons; the dam of Brutus is imp. Teardrop, by Scottish Chief. Brutus, therefore, is a descendant from a line of English winners on both sides. Up to the time of purchase he was untried as a sire. His oldest colts are now (1895) but four years old. The purchase price for this now famous sire was but \$800. Now, the State Agricultural Society, in its laudable efforts to show off at its annual fairs the capabilities of the products of California, gave this sire a value fifty times greater than his purchase price. It was at the State Fair of 1895 that sons of Brutus broke the then California records in two events—Vincto, with 112 pounds up, running a mile in 1:40, and Installator, with 108 pounds up, won the Native Sons Handicap, 1½ miles, in 1:53½. These performances led to an offer of \$50,000 for the sire, these two sons, and a score of brood mares that form the stud at Elmwood. The offer was refused. This is one of many instances that occur quite often at the State Fair, where selections of improved breeds of stock, of all kinds, are made.

The most extensive and prominent breeders of cattle, who make exhibits annually, are Messrs. Heilbron Bros. of Sacramento, Henry Pierce of San Francisco, F. H. Burke of Santa Clara, Robert Ashburner of San Mateo, P. H. Murphy of Perkins, W. B. Gibson of Woodland, E. A. Bridgford of Colusa, L. F. Eaton of Florin, Thomas Ward of Oak-

land, V. E. Hill of Hanford, George Bement & Son of East Oakland, H. A. Mayhew of Niles, Dr. G. M. Dixon of Sacramento, E. S. Driver of Antelope, and P. J. Shields of Sacramento—all of whom surely recognize the value of the annual State Fair, as evidenced by the interest they take in making an extensive exhibit each year. One of the breeders above mentioned, in writing to this office upon the subject, says: "I often hear disgruntled persons refer to the State Fair as being of little help to the farmer; but my experience has taught me that it is of great benefit to this very class. The farmer that takes no interest cannot expect to be helped directly, but is without doubt indirectly, as those that do take part help in creating or encouraging a market for the products of the farm. I have been an exhibitor for the past ten years; always take something to the fair, whether stock, poultry, grain, or fruit, whatever I have that is worth showing, and I must say that I think it has helped me, and believe the Board of Directors try hard to do justice to all. I feel that I have been well used, although many times not a successful taker of premiums. The great value of the exhibition is the opportunity it gives us to meet purchasers. I have sold stock to go to South Africa, Honolulu, Japan, and other foreign countries. My principal sales are made during the State Fair. I find it a good market for my surplus stock." These are the honest sentiments of an honest man, expressed without solicitation. He recognizes his opportunities, and profits accordingly. Should we make any effort to get opinions from those who take part in, and are thoroughly conversant with, these annual exhibitions as to their value to the State, this volume would have to be enlarged somewhat. It is safe to say, from knowledge of individual sales made, that in horses, cattle, sheep, swine, poultry, machinery, vehicles, implements, and household goods, fully \$50,000 is exchanged therefor each year. The Directorate take especial pains to encourage the development of all industries that would tend to make this State prosperous.

In the matter of dairying, this Society, in its desire to promote the interest, and to show the average dairyman the proper methods that should be followed by him, as well as to encourage superiority in milk breeds of cattle, offers valuable cash prizes annually for a genuine test of milch cows for butter fat under the Babcock test, and the result last season (1894) gave to our State the credit of the world's record—a yield from "Lady Woods," the prize cow, of 3.283 pounds of marketable butter a day for three days. For the test of 1895 there were twenty individual entries, and the competition was strong. Much interest was manifested in this contest by reason of the manner in which the tests were made. Samples taken at each milking were placed in jars, labeled and sealed. The testing was done at the Pavilion each evening by Mr. A. V. Stubenrauch, an understudy of Professor Hilgard, of the Department of Agriculture, University of California. He used the large steam Babcock tester exhibited by G. G. Wickson & Co., of San Francisco. The same firm also made exhibit of smaller hand machines, and explained to breeders how satisfactory tests could be made at a small expense. Composite tests were also made. The experiments attracted considerable attention and were conducive to the interest represented. The test lasted seven days, and resulted in awards being made as follows: In the two-old-class to "Pansy" (Jersey), owned by H. Pierce, of San Francisco, with a yield of 1.401 pounds of marketable butter per day; in the three-year-old class to "Jersey Lily W" (Jersey), owned by Thomas

Ward, of Oakland, with a yield of 1.698 pounds per day; in the four-year-old class to "Valentine" (Jersey), owned by H. Pierce, of San Francisco, with a yield of 1.865 pounds per day; in the five-year-old class to "Imp. Soypha" (Holstein), owned by F. H. Burke, of Menlo Park, with a yield of 1.929 pounds per day. As the milking was done at the Fair Grounds, where there was much that tended to make the cow excitable, and as she was subjected to a change of feed and surroundings, the return made under these adverse circumstances may be considered a very good showing. The tabulated results as to each animal competing will be found farther on in this volume, as well as the table of the average yield of milk and fat of premium cows exhibited at the various State Fairs in the United States where tests were made in 1894. The results of 1895 are not yet available. In this table presented California leads with that grand cow, "Lady Woods," which made the world's record at the Fair of 1894. These tables will furnish volumes of information to the close student of the producing qualities of milch cows. Every cow in use upon the dairy should be tested periodically upon various kinds of feed, to ascertain upon what feed she will produce the best quality of milk, and the cost of its production. Improve your herds; get the best, hence the necessity of high class stock. A most interesting paper on this subject, from the pen of Mr. P. J. Shields, will be found in this report.

The horticultural department of the exhibition of this year was under the supervision of the State Board of Horticulture, and there was a voluminous showing of a high quality of green and dried fruits. In connection with this department was maintained a booth as an educational method of showing practically how dried fruits should be cooked. Prof. C. H. Allen, of San José, a pioneer in promoting the use of California dried fruits, kindly consented to preside over this exhibit and demonstrate from a practical standpoint how our dried fruits should be prepared. A circular containing his formula was presented to each visitor, and judging from the interest taken by the public this feature was of great value to the dried-fruit interest of our State.

This Society devoted some special attention this year to the poultry exhibit. The premiums were advanced nearly one hundred per cent, and the entire list reclassified. Heretofore this exhibit was located at the Park grounds, but this season we changed it to the Pavilion annex. The innovation was a success, as the exhibits numbered over six hundred coops of the finest breeds of poultry. The display proved to be one of the attractions of the fair. As the poultry industry offers more inducements than any other subsidiary farm product, we hope to see an agitation in its behalf that will encourage its extension to the full limit of home demand, at least. The exhibitors made successful sales, and promised, for another season, at least double the quantity of exhibits. The aim and intent of the Board of Directors is to aid, in every possible way, the promotion of California's capabilities, and they are ever willing to receive suggestions from the producing community. We expect criticism, and if proper, will profit by it; but no attention is or will be given to the chronic fault-finder or disorganizer.

The Directorate were gratified with the general Pavilion exhibit, which embodied a varied assortment of beautifully designed shows of industrial products (views of which will be found in this volume).

To more fully show the falsity of indiscriminate talk in reference to



the annual fairs being conducted principally for racing, we append the aggregate ticket sales at the Park, whereat the stock is shown and racing is conducted, and those at the Pavilion, which contains our agricultural, horticultural, and industrial products show:

	Park.	Pavilion.
1893 (9 days).....	\$10,976 50	\$11,108 25
1894 (9 days).....	10,973 60	10,033 10
1895 (12 days).....	13,740 70	*10,207 45
	<hr/> \$35,684 80	<hr/> \$31,348 80

\* Closed one day and night, on account of Electrical Carnival and Admission Day parade.

This table shows the exact difference in attraction, the greatest excess being this year, when the Park had the benefit of three extra days and the Pavilion the setback on account of Native Sons' parade and the Electrical Carnival, held during the State Fair.

#### FINANCIAL.

As the exhibition at the Park was lengthened three days, there was necessarily an increase of receipts from both attendance and privileges, thereby enabling us to reduce our indebtedness \$7,288 72 during the year 1895. Our liabilities on February 1, 1895, were \$19,664 26.

The citizens' electric carnival, coupled with the Native Sons' celebration of Admission Day, at Sacramento this year, were of much benefit to the Society, and were it not for the rain storm of September 10th, when over 1.30 inches of rain fell at that unusual period, we would have profited much more from the extra large attendance drawn to Sacramento by these attractions. As it is, we believe our showing, in the face of such depressed times as the State has passed through during the three years just closed, is most remarkable, and could be brought about only by the strictest business attention in keeping down the enormous expense that State Fairs are necessarily subject to.

Our standing this day is as follows:

LIABILITIES.		
National Bank of D. O. Mills & Co., secured note.....	\$15,000 00	
Stakes due on fixed events .....	6,235 00	
Bills payable .....	366 70	
		<hr/> \$21,601 70
ASSETS.		
Entrances due race accounts .....	\$5,407 47	
Bank balance.....	3,400 08	
Cash balance .....	418 61	
		<hr/> 9,226 16
Net indebtedness February 1, 1896 .....		<hr/> \$12,375 54

EDWIN F. SMITH,  
Secretary.

C. M. CHASE,  
President.

## FINANCIAL STATEMENT.

FEBRUARY 1, 1895, TO JANUARY 31, 1896.

## SUMMARY.

1895.	RECEIPTS.	
Feb. 1—Cash balance .....		\$543 36
Rents .....	\$1,750 00	
Races .....	18,415 00	
Fixed events, collections .....	3,260 00	
Premiums .....	20,240 50	
Expense rebate .....	4,122 75	
Park and Pavilion receipts .....	42,904 80	
Bills payable .....	15,366 70	
Entrances due, collected .....	360 20	
		106,419 95
	DISBURSEMENTS.	\$106,963 31
Advertising .....	\$1,970 20	
Expense .....	25,939 96	
Salaries .....	5,018 50	
Insurance .....	553 07	
Races .....	32,880 00	
Interest .....	2,365 63	
Bills payable .....	16,986 57	
Entrances due, 1895 .....	842 00	
Fixed events paid .....	1,700 00	
Premiums .....	11,416 97	
Bank balance paid, account 1894 .....	3,471 72	
Bank balance, January 31, 1895 .....	3,400 08	
1896.		
Feb. 1—Cash balance .....	418 61	\$106,963 31

1895.	RECEIPTS.	
Feb. 1—Cash balance .....		\$543 36
	RENTS.	
Park rent, twelve months, at \$125 .....	\$1,500 00	
Grand Army, Pavilion .....	10 00	
Christian Endeavor, Pavilion .....	40 00	
J. Breuner, Pavilion .....	200 00	
		\$1,750 00

	RACES—1895.	
Race No. 1—Occident Stake, payments .....	\$2,000 00	
2—Pacing purse (2:25 class), entrances .....	800 00	
3—Trotting purse (2:20 class), entrances .....	650 00	
4—Two-year-old stake (2:40 class), entrances .....	280 00	
5—Trotting purse (2:25 class), entrances .....	650 00	
6—Trotting purse (2:40 class), entrances .....	480 00	
7—Pacing stake (2:20 class), entrances .....	450 00	
8—Trotting purse (2:17 class), entrances .....	800 00	
9—Pacing purse (2:15 class), entrances .....	650 00	
10—Selling purse, entrances and forfeits .....	140 00	
11—Selling sweepstake, entrances and forfeits .....	270 00	
12—Capital City Stake, entrances and forfeits .....	725 00	
Amount carried forward .....	\$7,895 00	\$2,293 36

	Amount brought forward .....	\$7,695 00	\$2,293 36
Race No. 13—	Handicap for all ages, entrances and forfeits .....	190 00	
14—	Selling purse, entrances .....	120 00	
15—	Selling purse, entrances .....	120 00	
16—	Handicap for three-year-olds, entrances and forfeits .....	135 00	
17—	Handicap for two-year-olds, entrances and forfeits .....	110 00	
18—	Sunny Slope Stake, entrances and forfeits .....	275 00	
19—	Handicap hurdle race, entrances .....	100 00	
20—	Selling purse, entrances .....	100 00	
21—	Native Sons Handicap, entrances and forfeits .....	745 00	
22—	The Del Mar Stake, entrances and forfeits .....	400 00	
23—	California Annual Stake, entrances and forfeits .....	205 00	
24—	Selling purse, entrances and forfeits .....	200 00	
25—	Free-for-all trot, entrances .....	400 00	
26—	Trotting purse (2:14 class), entrances .....	650 00	
27—	Trotting purse (2:27 class), entrances .....	520 00	
28—	Pacing Stake (2:30 class), entrances .....	270 00	
29—	Pacing purse (free for all), entrances .....	360 00	
29½—	Pacing purse (2:13 class), entrances .....	360 00	
30—	Trotting purse (2:25 class), entrances .....	400 00	
31—	Trotting stake (2:25 class), entrances .....	775 00	
32—	Trotting purse (2:20 class), entrances .....	800 00	
33—	Pacing purse (2:19 class), entrances .....	750 00	
34—	Selling purse, entrances and forfeits .....	180 00	
35—	Handicap for two-year-olds, entrances and forfeits .....	140 00	
36—	The Fall Stake, entrances and forfeits .....	575 00	
37—	Selling purse, entrances .....	120 00	
38—	Selling purse, entrances and forfeits .....	80 00	
39—	Selling purse, entrances and forfeits .....	80 00	
40—	Selling purse, entrances and forfeits .....	180 00	
41—	Handicap for two-year-olds, entrances .....	100 00	
42—	Selling purse, entrances and forfeits .....	170 00	
43—	Hurdle handicap, entrances and forfeits .....	110 00	
44—	Running purse, entrances .....	80 00	
45—	Autumn Handicap, entrances and forfeits .....	360 00	
46—	Free Handicap, entrances .....	60 00	
47—	Selling purse, entrances .....	100 00	
48—	Selling purse, entrances .....	120 00	
			\$18,415 00

## PREMIUMS.

State warrant for premiums and care of building .....	\$20,000 00	
Sweepstake entries .....	240 50	
		\$20,240 50

## EXPENSE REBATE.

Deficiency appropriation, State of California .....	\$3,000 00	
Souvenir appropriation .....	1,000 00	
J. Mackey, hay purchased .....	72 85	
Sales of forage, etc. ....	49 90	
		\$4,122 75

## PARK AND PAVILION RECEIPTS.

	John Breuner, life membership .....		\$100 00
Sept. 2—	Park ticket sales .....	\$775 00	
3—	Park ticket sales .....	445 00	
4—	Park ticket sales .....	523 00	
5—	Park ticket sales .....	881 25	
6—	Park ticket sales .....	771 00	
7—	Park ticket sales .....	1,025 25	
9—	Park ticket sales .....	2,223 75	
10—	Park ticket sales .....	1,793 00	
11—	Park ticket sales .....	1,117 00	
12—	Park ticket sales .....	691 50	
13—	Park ticket sales .....	1,375 75	
14—	Park ticket sales .....	1,412 25	
	Merchants' tickets .....	706 95	
			\$13,740 70
Sept. 2—	Pavilion ticket sales .....	\$422 25	
3—	Pavilion ticket sales .....	518 00	
4—	Pavilion ticket sales .....	193 75	
5—	Pavilion ticket sales .....	382 25	
6—	Pavilion ticket sales .....	353 25	
7—	Pavilion ticket sales .....	639 50	
9—	Pavilion ticket sales .....	539 75	

Amount carried forward .....

\$3,048 75

\$58,912 31



	Amount brought forward .....	\$3,048 75	\$58,912 31
Sept. 10—	Pavilion ticket sales .....	2,003 50	
11—	Pavilion ticket sales .....	419 75	
12—	Pavilion ticket sales .....	987 25	
13—	Pavilion ticket sales .....	1,528 25	
14—	Pavilion ticket sales .....	1,513 00	
	Merchants' tickets .....	706 95	
		<hr/>	
	Pool privilege .....	\$15,600 00	\$10,207 45
	Manure privilege .....	250 00	
	Art catalogue and Pavilion privileges .....	1,134 65	
	Programmes .....	550 65	
	Park privileges .....	1,321 35	
		<hr/>	
			\$18,856 65

## BILLS PAYABLE.

Wm. Curtis, due 1896 .....	\$366 70
D. O. Mills & Co., due 1896 .....	15,000 00
	<hr/>
	\$15,366 70

## ENTRANCES DUE.

S. C. Tryon, on "Flora M" .....	\$80 00
C. A. Durfee, on "Ketchum" .....	30 00
J. W. Donathan, on "Geo. Polhemus" and "Warrago" .....	25 00
J. W. Van Bokkelen, on "Boodle" .....	35 00
R. J. Havey, on "El Tirano" .....	10 00
A. L. Hinds, on "Hera," 1893 .....	40 00
N. T. A., on "Reno Prince," 1893 .....	38 50
N. T. A., on "Baywood," 1894 .....	30 00
N. T. A., on "Eva M," 1894 .....	40 00
N. T. A., on "Carrie S," 1894 .....	31 70
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	\$360 20

## FIXED EVENTS.

Nursery Stake, 1896 .....	\$1,150 00
Occident Stake, 1896 .....	200 00
Occident Stake, 1897 .....	490 00
Occident Stake, 1898 .....	500 00
Nursery Stake, 1897 .....	370 00
Futurity Stake, 1898 .....	550 00
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	\$3,260 00
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	\$106,963 31

## DISBURSEMENTS.

1895.	ADVERTISING.	
Sept. 6—	Marysville Standard .....	\$10 00
	Colusa Herald .....	10 00
10—	Ione Valley Echo .....	4 00
20—	San Francisco Examiner .....	94 50
	California World .....	10 00
	Oakland Tribune .....	20 00
	Shasta County Democrat .....	8 00
	Vacaville Reporter .....	7 50
	California Fruit Grower .....	45 00
	Fancier's Monthly .....	7 00
	Dixon Tribune .....	6 00
	San José Mercury .....	12 00
	Chico Chronicle-Record .....	10 00
	Placer Herald .....	14 00
	Petaluma Courier .....	12 50
	Amador Ledger .....	10 00
	Colusa Sun .....	22 50
	Santa Rosa Republican .....	12 00
	Modesto Herald .....	6 00
	San Francisco Post .....	60 00
	Los Angeles Hotel Gazette .....	15 00
	San Francisco Call .....	111 00
	Breeder and Sportsman .....	216 00
	Los Angeles Express .....	20 00
		<hr/>
	Amount carried forward .....	\$743 00

Amount brought forward .....		\$743 00	
Sept. 20—Sacramento Bee .....		139 00	
Lodi Sentinel .....		7 50	
Stockton Mail .....		20 00	
San Francisco Wave .....		18 00	
Placer News-Messenger .....		5 00	
San Francisco Bulletin .....		70 00	
Merced Sun .....		12 00	
Contra Costa News .....		5 00	
San Francisco Wasp .....		20 00	
Stockton Independent .....		21 00	
Pacific Town Talk .....		5 00	
Woodland Mail .....		12 00	
San Francisco Chronicle .....		120 00	
Nevada Transcript .....		20 00	
Sacramento River News .....		5 00	
San Francisco News-Letter .....		20 00	
Chico Enterprise .....		5 00	
Red Bluff Sentinel .....		8 00	
San Francisco Report .....		50 00	
Nevada City Herald .....		10 00	
Pacific Rural Press .....		54 65	
Sonoma Democrat .....		18 00	
Napa Register .....		15 00	
Oakland Times .....		25 00	
Reno Gazette .....		10 00	
Nord California Herold .....		5 00	
Gridley Herald .....		5 00	
Marysville Democrat .....		15 00	
Winters Express .....		5 00	
Truckee Republican .....		12 00	
Grass Valley Telegraph .....		10 00	
J. F. Foster .....		75 00	
Sacramento Leader .....		22 00	
Sacramento Record-Union .....		178 00	
Woodland Democrat .....		10 00	
Sacramento Sunday News .....		12 00	
California Turf .....		15 00	
Sutter County Farmer .....		6 00	
Saturday Press .....		8 00	
Los Angeles Times-Mirror .....		27 05	
California Turf .....		58 00	
Santa Cruz Surf .....		10 00	
Oroville Register .....		5 00	
Twin City News .....		5 00	
Red Bluff News .....		12 00	
Galt Gazette .....		8 00	
Folsom Telegraph .....		8 00	
Plumas National Bulletin .....		10 00	
Placer County Republican .....		7 00	
Tracy Weekly Times .....		4 00	
			\$1,970 20
EXPENSE.			
Feb. 4—J. C. Hoag, account 1894 .....		\$30 00	
28—Sundries for month .....		19 00	
Mar. 30—Western Union Telegraph Co., telegrams .....		19 00	
Sundries for month .....		24 00	
Apr. 3—E. J. Dwyer, legal fees .....		75 00	
15—E. W. Bruening, binding papers .....		19 55	
30—Sundries for month .....		19 70	
May 1—H. S. Crocker Co, account 1894 .....		22 50	
13—Lightfoot & Ormsbee, work at Park .....		79 00	
25—Layson & Brusie, balance legal fees .....		1,250 00	
31—Sundries for month .....		35 64	
June 2—J. C. Brusie, expenses .....		100 00	
4—John Oschner, repairing tank .....		18 00	
12—Lightfoot & Ormsbee, repairs .....		14 05	
29—Southern Pacific Co., freight on harrow .....		20 97	
30—Sundries for month .....		44 65	
July 26—Postmaster, rent and stamps .....		37 50	
27—William Slaughter, whitewashing .....		165 00	
D. Norcross & Co., flag .....		20 00	
28—T. M. Lash & Co., disinfectant .....		17 00	
Amount carried forward .....		\$2,030 56	\$1,970 20

	Amount brought forward .....	\$2,030 56	\$1,970 20
July	29—B. M. Lelong, postage, etc. ....	17 50	
	30—George Boyne, decorating office .....	52 50	
	Pioneer Carpet Works, office carpet .....	27 50	
	Sundries for month .....	11 05	
	Wells, Fargo & Co.'s Express, three months .....	25 50	
Aug.	31—Postmaster, postage .....	31 00	
	W. Gardner, repairing stalls, etc. ....	76 25	
Sept.	2—C. G. Portins, alfalfa hay .....	61 70	
	A. Moose, painting .....	70 00	
	4—W. F. Cutler, hay and team .....	57 70	
	7—Jas. McClatchy & Co., souvenir .....	1,000 00	
	10—Pacific Athletic Association, compromise .....	175 00	
	14—A. V. Stubenrauch, milk test .....	54 10	
	J. W. Mitchell, annual address .....	75 00	
	American Concert Band, music .....	2,900 00	
	F. C. De Long, Superintendent of Pavilion .....	100 00	
	16—P. Archibald, error—pool .....	35 00	
	C. H. Allen, dried fruit exhibit .....	89 05	
	Electric Carnival, subscription .....	500 00	
	Native Sons of Golden West, subscription .....	1,000 00	
	17—B. A. Johnson, lunch at Park .....	550 86	
	18—Fair Publishing Co., tickets, etc. ....	164 15	
	Donohoe Bros., hay for team .....	14 35	
			\$9,118 77

## PARK PAYROLL.

Sept. 14—	George B. Folger, Assistant Superintendent .....	\$87 50	
	Fred. H. Chase, entry clerk .....	70 00	
	R. Havey, starter .....	210 00	
	Dan Tully, assistant starter .....	30 00	
	James Brown, assistant starter .....	18 00	
	Crawford Cox, chief marshal .....	60 00	
	James H. Hole, assistant marshal .....	60 00	
	Chas. Studarus, assistant marshal .....	60 00	
	U. C. Billingsley, chief ticket clerk .....	60 00	
	James Hooker, assistant ticket clerk .....	36 00	
	Fred. W. Blanchard, assistant ticket clerk .....	36 00	
	Harry Chipman, assistant ticket clerk .....	36 00	
	Fred. W. Carey, assistant ticket clerk .....	36 00	
	Geo. W. Davis, grand stand clerk .....	27 50	
	Wm. F. Preston, clerk of scales .....	60 00	
	H. L. Stevens, stand badge clerk .....	30 00	
	Jerome C. Carroll, stand badge clerk .....	30 00	
	Fred. C. Allen, stand badge clerk .....	30 00	
	Samuel Dickson, special stand ticket seller .....	30 00	
	J. P. Fogarty, groom badge clerk .....	39 00	
	Elbert Smith, weigher .....	30 00	
	M. Withington, forage clerk .....	45 00	
	Jas. Reed, position board .....	30 00	
	Richard May, inspector .....	24 00	
	Geo. Ritchie, gatekeeper .....	24 00	
	J. C. Devine, gatekeeper .....	24 00	
	E. Danforth, gatekeeper .....	24 00	
	J. Maley, gatekeeper .....	24 00	
	W. J. O'Brien, gatekeeper press stand .....	24 00	
	James Patterson, track gate .....	24 00	
	J. D. Green, fence watch .....	24 00	
	J. Sorell, porter .....	24 00	
	C. Ingram, chalkman .....	24 00	
	D. O. Manning, arm numbers .....	24 00	
	M. K. Miller, day watch .....	37 50	
	J. J. Lairsey, night watch .....	37 50	
	Wm. Norman, night watch .....	45 00	
	C. Peck, rear porter .....	4 00	
	Frank Smith, rear porter .....	22 00	
	W. H. Baker, delivery .....	45 00	
	C. Metcalf, assistant delivery clerk .....	26 00	
	M. Walsh, Directors' stand gatekeeper .....	30 00	
	C. D. Hall, paddock gate .....	30 00	
	W. P. Clark, day fire patrol .....	39 00	
	E. Loring, grand stand badge clerk .....	2 50	
	W. E. Hall, milk test .....	14 00	
	James Wright, milk test .....	7 00	
Amount carried forward .....		\$1,754 50	\$11,088 97



Sept. 14—	Amount brought forward .....	\$1,754 50	\$11,088 97
	Wm. Foote, carpenter .....	8 75	
	A. Grubbs, cleaning stands .....	80 00	
	D. McKenna, hurdles .....	6 00	
	S. G. Morton, patrol judge .....	50 00	
	S. J. McGibben, assistant clerk .....	35 00	
	J. Miles, police .....	20 00	
	J. C. Dinne, distance judge .....	60 00	
	C. Whiting, porter judges' stand .....	30 00	
	D. L. Hackett, clerk of course .....	60 00	
	H. N. Morse, detective service .....	517 00	
	W. H. Wallace, saddle .....	12 00	
	A. H. Foote, canvas .....	75	
	C. E. Metcalf, canvas .....	75	
	W. H. Baker, canvas .....	75	
	George C. Ormsbee, carpenter .....	31 50	
	A. W. Livermore, carpenter .....	6 90	
	W. M. Foote, carpenter .....	7 50	
	T. Orr, laborer .....	9 00	
	F. Smith, teamster .....	12 00	
	George C. Ormsbee, extra help on hurdles .....	5 25	
	J. Mitchell, laborer .....	3 00	
			\$2,710 65

## PARK REPAIRS.

	George C. Ormsbee, carpenter .....	\$122 55	
	C. Seeton, carpenter .....	35 00	
	T. J. Dunn, carpenter .....	86 30	
	W. M. Foote, carpenter .....	85 05	
	M. Fiedler, carpenter .....	58 15	
	A. W. Livermore, carpenter .....	80 05	
	H. H. Norris, carpenter .....	58 15	
	C. Ruggles, carpenter .....	22 50	
	L. H. Cuthbirth, carpenter .....	55 65	
	D. Herron, carpenter .....	53 75	
	F. K. Stout, carpenter .....	17 50	
	F. L. Whitmore, carpenter .....	10 65	
	H. F. Wilson, carpenter .....	10 00	
	A. Setterquist, carpenter .....	12 50	
	J. H. Wilson, carpenter .....	28 15	
	H. D. Rideout, carpenter .....	18 75	
	A. S. Collier, carpenter .....	13 80	
	G. W. Waldron, carpenter .....	11 90	
	W. W. Ellis, carpenter .....	15 00	
	C. Harwood, carpenter .....	3 15	
	B. L. Pollard, carpenter .....	8 80	
	A. Foot, carpenter .....	8 80	
	L. B. Allan, carpenter .....	5 50	
	J. S. Wharton, carpenter .....	65	
	John Behan, carpenter .....	5 65	
	D. Curl, laborer .....	27 00	
	T. Orr, laborer .....	64 00	
	J. Matista, laborer .....	32 50	
	V. Boudatt, laborer .....	25 50	
	J. Mitchell, laborer .....	47 50	
	L. Bentley, laborer .....	25 00	
	H. Sheridan, laborer .....	8 50	
	D. Slaughter, laborer .....	9 00	
	J. Sorell, laborer .....	7 50	
	C. Peck, laborer .....	4 00	
	C. E. Metcalf, laborer .....	3 50	
	F. Rudge, laborer .....	5 00	
	P. McGuire, teamster .....	25 50	
	F. Smith, teamster .....	111 75	
	F. B. Lovedale, teamster .....	45 00	
	Frank Meister, charge of chain-gang, etc. ....	180 00	
	Sam Lusk, hauling chain-gang .....	37 00	
	E. F. Strong, climbing pole .....	5 00	
			\$1,491 20

## PAVILION PATROLL.

Sept. 14—	J. A. Stanton, Superintendent Art Gallery .....	\$200 00	
	O. P. Dodge, Assistant Superintendent .....	180 00	
	H. N. Morse, Detective Agency .....	517 00	
	Amount carried forward .....	\$897 00	\$15,290 82

	Amount brought forward .....	\$897 00	\$15,290 82
Sept. 14—	B. M. Lelong, Superintendent Horticultural Dept. ....	100 00	
	H. F. G. Trumpler, chief ticket clerk .....	48 00	
	Percy Willis, assistant ticket clerk .....	27 50	
	J. C. Toomey, assistant ticket clerk .....	30 00	
	R. S. May, inspector .....	24 00	
	Mrs. M. A. Kennedy, entry clerk .....	56 03	
	D. J. Sinclair, entry clerk .....	56 00	
	Mrs. Clara Parsons, entry clerk .....	64 00	
	F. E. Townsend, dried fruit clerk .....	26 00	
	Mrs. LaFrance, dried fruit clerk .....	18 00	
	Laura Lewis, dried fruit clerk .....	16 50	
	Timothy Lee, watchman .....	80 00	
	D. K. Spillman, doorkeeper .....	42 00	
	F. T. Phillips, doorkeeper .....	36 00	
	Mrs. Quigley, ladies' department .....	52 00	
	Mrs. V. Lawler, ladies' room .....	24 00	
	J. L. Dunn, ticket counter .....	22 50	
	Geo. Bronner, laborer .....	11 00	
	Jno. Conrad, laborer .....	64 00	
	Jesse Slaughter, laborer .....	11 00	
	Wm. E. Conley, laborer .....	63 55	
	Dan Gates, laborer .....	88 75	
	A. Horabin, laborer .....	49 00	
	Chas. Lightfoot, carpenter .....	133 00	
	Geo. Runyon, carpenter .....	84 00	
	C. Kelleher, laborer .....	76 50	
	Mr. Meyers, carpenter .....	18 00	
	J. Walsh, laborer .....	35 50	
	C. Tryon, laborer .....	50 00	
	H. Tyler, laborer .....	50 00	
	E. Hart, laborer .....	49 50	
	J. Early, laborer .....	27 00	
	J. M. Wait, laborer .....	52 00	
	H. Clock, laborer .....	33 75	
	Thomas Lacy, laborer .....	51 75	
	T. Measure, laborer .....	49 00	
	Thomas Kane, laborer .....	21 75	
	L. H. Cuthbirth, carpenter .....	15 00	
	H. Long, laborer .....	2 50	
	W. Waters, laborer .....	72 10	
	J. Jorgenson, laborer .....	43 00	
	Paul Jorgenson, laborer .....	44 00	
	J. Carroll, laborer .....	32 50	
	William Hall, laborer .....	31 00	
	J. Harris, laborer .....	39 00	
	O. F. Graf, carpenter .....	15 90	
	G. H. Jost, carpenter .....	5 25	
	F. Redding, laborer .....	42 25	
			\$2,981 05

## EXPENSE—(CONTINUED).

Sept. 21—	William Curtis, hay for premium stock .....	\$245 70	
	William Curtis, team for track .....	121 00	
	Buffalo Ice Co., ice 1894-5 .....	44 55	
	Fairbanks, Morse & Co., scales for milk test .....	12 50	
	J. M. Morrison, shooting tournament .....	250 00	
26—	Friend & Terry Lumber Co., repairs .....	1,103 16	
	Sterling & Parker, bill posting .....	8 00	
	Pacific Coast Posting and Advertising Co., bill posting .....	12 00	
	L. A. Meyers, garbage .....	9 00	
	L. Biggs, hay for Park .....	614 29	
	G. G. Wickson & Co., repairing typewriter .....	26 00	
27—	W. F. Drew, burners for office .....	7 50	
	Holbrook, Merrill & Stetson, merchandise .....	29 40	
	B. Wilson & Co., ribbons, bunting, etc. ....	107 10	
	T. J. Scott, plumbing at Park .....	166 90	
	L. Winter, engraving .....	12 00	
	C. H. Krebs & Co., glazing at Pavilion .....	100 28	
	Sullivan-Kelly Co., painting at Park .....	499 60	
	W. A. Caswell, bill posting .....	33 00	
	Schaw, Ingram, Batchelor & Co., merchandise .....	172 29	
	Henry Bennett, blacksmithing .....	320 57	
	J. W. Wilson, horse hire .....	179 00	

Amount carried forward ..... \$4,073 84 \$18,271 87

	Amount brought forward .....	\$4,073 84	\$18,271 87
Sept. 27—	Hale Bros. & Co., account poultry exhibit .....	32 93	
	C. Suter, mill work .....	60 45	
	Cooper Music Co., judges' stand .....	12 00	
	Capital Box Factory, sawdust .....	20 00	
	California Track Harrow Co., tools for track .....	120 00	
	Capital Furniture Co, repairs, etc. ....	26 60	
	McKay Tanning Co., tanbark .....	191 10	
	H. S. Crocker Co., stationery .....	55 25	
	H. C. Chipman, sign painting .....	49 50	
	W. P. Fuller & Co., framing diplomas .....	26 10	
	Gruhler & Kimbrough, hardware for Park .....	55 00	
	A. S. Hopkins Co., merchandise .....	42 75	
	Pacific Stables, buggy hire .....	24 00	
	John Stevens, cartage .....	52 95	
	Phoenix Milling Co., merchandise .....	149 35	
	Locke & Lavenson, merchandise .....	18 70	
	J. A. Lafferty, cartage .....	129 85	
	D. Johnston & Co. ....	105 84	
	Capital Gas Co., gas for Pavilion .....	220 25	
	G. D. Stewart, photos .....	87 00	
	S. E. P. & L. Co., lighting Pavilion .....	641 76	
	J. E. Kerr, moving building .....	50 00	
	G. E. Powell, lawn tennis tournament .....	50 00	
28—	Sacramento Publishing Co., composition work .....	20 00	
	George Boyne, decorating, etc. ....	451 55	
	Joseph Sims, straw .....	578 73	
	C. H. Allen, dried fruit exhibit .....	25 45	
	Fogalsang & Raplee, electrical work .....	23 00	
	Sundries for August and September .....	118 50	
Oct. 1—	F. B. Gillett, annual address .....	10 00	
	N. J. Sligar, poultry department .....	9 00	
7—	George Murray & Son, Park repairs .....	27 80	
	George B. Stack, plumbing at Park .....	165 40	
	Western Union Telegraph Co., telegraphing .....	17 00	
	Goodwin Bros., turf guide .....	12 00	
	Wells, Fargo & Co., expressage .....	41 42	
15—	Rent of stalls .....	35 00	
	H. S. Crocker Co., lithographing .....	390 53	
	Mary Hinkson, diplomas .....	22 00	
	M. M. Estee, Directors' stand .....	50 00	
	Wm. McLaughlin, cartage .....	38 58	
30—	Sundries for month .....	134 40	
Nov. 2—	Lightfoot & Ormsbee, repairing roof .....	429 00	
	9—National Trotting Association, fee .....	100 00	
	11—Southern Pacific Co., machinery exhibit .....	103 48	
	13—Thomas Scott, repairs at Park .....	20 40	
	H. Cowell & Co., repairs at Park .....	43 75	
	21—John Breuner, repairs of office, purchase of chairs .....	126 00	
	30—Sundries for month .....	12 45	
Dec. 2—	Lightfoot & Ormsbee, repairs at Park and Pavilion .....	73 00	
	16—R. R. Flint, experting .....	100 00	
	30—Sundries for month .....	56 45	
1896.			
Jan. 6—	Wells, Fargo & Co., expressage .....	10 65	
	Southern Pacific Co., freight on coops .....	31 98	
	W. P. Fraser, lumber for Park .....	45 00	
30—	Sundries for month .....	20 55	
			\$9,638 29

## PREMIUMS—1895.

Ladies' tournament .....	\$125 00	
Premiums, account 1894 .....	50 00	
First Department .....	6,364 00	
Second Department .....	489 00	
Third Department .....	490 00	
Fourth Department .....	415 50	
Fifth Department .....	1,049 00	
Sixth Department .....	230 00	
Seventh Department .....	664 50	
Eighth Department .....	897 00	
W. K. Vanderslice & Co., medals .....	627 97	
Eva Dennison, balance of premium .....	15 00	
		\$11,416 97

Amount carried forward ..... \$39,327 13



Amount brought forward ..... \$39,327 13

## INSURANCE.

Sept. 13—J. B. F. Davis & Son.....	\$28 25
16—Edwin K. Alsip & Co.....	75 00
17—J. H. Wiseman.....	50 00
21—H. Kimbrough.....	67 50
27—J. E. Mills.....	36 40
Frank Hickman.....	83 25
Curtis, Carmichael & Brand.....	36 47
H. J. Goethe.....	44 20
J. N. Porter.....	50 00
W. P. Coleman.....	62 40
Nov. 13—W. P. Coleman.....	9 60

\$553 07

## RACES—1895.

Race No. 1—Occident Stake, stakes.....	\$2,400 00
2—Pacing purse (2:25 class), purse.....	800 00
3—Trotting purse (2:22 class), purse.....	1,000 00
4—Two-year-old stake (2:40 class), entrances.....	280 00
5—Trotting purse (2:25 class), purse.....	1,000 00
6—Trotting purse (2:40 class), purse.....	800 00
7—Pacing stake (2:20 class), stakes and added money.....	850 00
8—Trotting purse (2:17 class), purse.....	1,000 00
9—Pacing purse (2:15 class), purse.....	1,000 00
10—Selling purse, purse.....	400 00
11—Selling sweepstake, stakes and added money.....	520 00
12—Capital City Stake, stakes and added money.....	1,125 00
13—Handicap for all ages, purse.....	500 00
14—Selling purse, purse.....	400 00
15—Selling purse, purse.....	400 00
16—Handicap for three-year-olds, purse.....	500 00
17—Handicap for two-year-olds, purse.....	400 00
18—Sunny Slope Stake, stakes and added money.....	525 00
19—Handicap hurdle race, purse.....	400 00
20—Selling purse, purse.....	400 00
21—Native Sons Handicap, stakes and added money.....	745 00
22—The Del Mar Stake, stakes and added money.....	900 00
23—California Annual Stake, stakes and added money.....	505 00
24—Selling purse, purse.....	400 00
25—Trotting purse, purse.....	800 00
26—Trotting purse (2:14 class), purse.....	1,000 00
27—Trotting purse (2:27 class), purse.....	800 00
28—Pacing stake (2:30 class), stakes and added money.....	570 00
29—Pacing purse, purse.....	800 00
29½—Pacing purse (2:13 class), purse.....	800 00
30—Trotting purse (2:25 class), purse.....	800 00
31—Trotting stake (2:25 class), stakes and added money.....	1,175 00
32—Trotting purse (2:20 class), purse.....	1,000 00
33—Pacing purse (2:19 class), purse.....	1,000 00
34—Selling purse, purse.....	400 00
35—Handicap for two-year-olds, purse.....	400 00
36—The Fall Stake, stakes and added money.....	975 00
37—Selling purse, purse.....	400 00
38—Selling purse, purse.....	400 00
39—Selling purse, purse.....	400 00
40—Selling purse, purse.....	400 00
41—Handicap for two-year-olds, purse.....	400 00
42—Selling purse, purse.....	400 00
43—Hurdle handicap, purse.....	400 00
44—Running purse, purse.....	400 00
45—Autumn Handicap, stakes and added money.....	710 00
46—Free Handicap, purse.....	400 00
47—Selling purse, purse.....	400 00
48—Selling purse, purse.....	400 00

\$32,880 00

## SALARIES.

Edwin F. Smith, Secretary.....	\$2,400 00
L. C. Ferguson, Assistant Secretary.....	250 00
Felix Dunn, Financial Secretary.....	200 00
C. S. Patton, trackman.....	128 50
Charles B. Herndon, janitor.....	900 00
S. B. Payne, stenographer.....	300 00

Amount carried forward ..... \$4,178 50 \$72,760 20

Amount brought forward .....	\$4,178 50	\$72,760 20
F. B. Gillett, stenographer .....	240 00	
Thos. Kane, watchman .....	350 00	
D. M. Cox, watchman .....	250 00	
		\$5,018 50

## INTEREST.

Mar. 26—California State Bank .....	\$4 97	
June 3—D. O. Mills & Co., account interest .....	406 65	
26—California State Bank, account interest .....	248 85	
Sept. 16—W. K. Vanderslice & Co., account interest .....	25 00	
24—D. O. Mills & Co., account interest .....	281 97	
28—W. J. Irvine, account interest .....	97 54	
M. V. Sparks, account interest .....	83 16	
Oct. 1—D. O. Mills & Co., discount .....	313 35	
D. O. Mills & Co., account interest .....	66 66	
7—Richards & Knox, account interest .....	92 79	
J. Sims, account interest .....	57 76	
H. S. Crocker Co., account interest .....	43 08	
14—Capital Gas Co., account interest .....	100 00	
Dec. 26—California State Bank, account interest .....	248 85	
1896.		
Jan. 30—D. O. Mills & Co., account interest .....	295 00	
		\$2,365 63

## BILLS PAYABLE.

California State Bank, account 1894 .....	\$248 85	
W. K. Vanderslice & Co., account 1894 .....	659 49	
D. O. Mills & Co., account note .....	10,000 00	
W. J. Irvine, account 1894 .....	1,219 26	
M. V. Sparks, account 1894 .....	1,188 00	
Richards & Knox, account 1894 .....	1,159 89	
J. Sims, account 1894 .....	543 88	
H. S. Crocker Co., account 1894 .....	538 60	
Capital Gas Company, account 1894 .....	1,428 60	
		\$16,986 57

## ENTRANCES DUE.

Race No. 2—T. K. Burgess, on "Don Fallis" .....	\$40 00	
2—W. M. Callidge, on "Chief Moore" .....	40 00	
2—W. M. Henderson, on "Jay" .....	40 00	
3—Ed. Sanders, on "Director Prince" .....	50 00	
3—Mrs. W. B. Long, on "Montana" .....	50 00	
3—Frank Smith, on "Tilton B" .....	50 00	
5—Mativia & Coons, on "Palermo" .....	50 00	
6—W. M. Henderson, on "Leakewood" .....	40 00	
9—Sam Castro, on "Touchet" .....	50 00	
32—Mativia & Coons, on "Palermo" .....	50 00	
32—F. Heinrich, on "Lucky B" .....	50 00	
33— — Corberry, on "Rego" .....	50 00	
33—A. Mitchell, on "Flora B" .....	50 00	
33—Mrs. S. G. Mastin, on "Falrose" .....	50 00	
40—G. Pacheco, on "Abi P" .....	20 00	
45—Matt Kerr, on "Joe K" .....	10 00	
39—Idaho Stables, on "Belle Oak" .....	20 00	
37—G. Pacheco, on "Abi P" .....	20 00	
M. Sanders, protested draft .....	62 00	
C. A. Durfee, Race No. 28 .....	50 00	
		\$842 00

## FIXED EVENTS.

Occident Stake, 1895, account collections .....	\$1,700 00
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## BANK.

D. O. Mills & Co., paid overdraft account 1894 .....	\$3,471 72
D. O. Mills & Co., cash balance .....	3,400 08
1896.	
Feb. 1—Cash balance .....	418 61
	\$106,963 31

## PARK AND PAVILION DAILY RECEIPTS.

	Pavilion.	Park.
Sept. 2—Ticket sales .....	\$422 25	\$775 00
3—Ticket sales .....	518 00	445 00
4—Ticket sales .....	193 75	523 00
5—Ticket sales .....	382 25	881 25
6—Ticket sales .....	353 25	771 00
7—Ticket sales .....	639 50	1,025 25
8—Ticket sales .....	539 75	2,223 75
9—Ticket sales .....	2,003 50	1,793 00
10—Ticket sales .....	419 75	1,117 00
11—Ticket sales .....	987 25	691 50
12—Ticket sales .....	1,528 25	1,375 75
13—Ticket sales .....	1,513 00	1,412 25
14—Ticket sales .....	706 95	706 95
Merchants' books .....		
	<hr/>	<hr/>
	\$10,207 45	\$13,740 70
Privileges, programmes, etc. ....		17,722 00
Art catalogues, Life Membership, and Pavilion privileges .....	1,234 65	-----
	<hr/>	<hr/>
	\$11,442 10	\$31,462 70

## PROFIT AND LOSS.

	DR.	
Balance February 1, 1895 .....	\$19,664 26	
Advertising .....	1,970 20	
General expense account .....	25,939 96	
Salaries .....	5,018 50	
Insurance .....	553 07	
Races .....	14,465 00	
Premiums .....	11,416 97	
Interest .....	2,365 63	
	<hr/>	\$81,393 59
	CR.	
Expense account, rebates .....	\$4,122 75	
Appropriation by State .....	20,000 00	
Sweepstakes in premiums .....	240 50	
Park and Pavilion receipts .....	42,904 80	
Rent .....	1,750 00	
Liabilities February 1, 1896 .....	12,375 54	
	<hr/>	\$81,393 59



## ANNUAL MEETING.

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ROOMS OF THE STATE BOARD OF AGRICULTURE, }  
SACRAMENTO, February 1, 1896. }

The annual meeting of the State Board of Agriculture was held this day. The following named Directors were present: Messrs. Boggs, Cox, Mathews, Flickinger, De Long, Terry, Mackey, Land, and President Chase.

The minutes of previous meeting were read and approved.

### THE ANNUAL REPORT.

The annual report of the Board to the Governor, together with the Secretary's financial statement, was read, approved, ordered to print, and transmitted to the Governor.

### REPORT OF EXECUTIVE COMMITTEE.

The Finance Committee, in conjunction with the Executive Committee, met September 26th for the purpose of auditing sundry bills, and for other business matters. President Chase, with Directors Cox, Land, Mackey, and Terry, were present. The Secretary called attention to the necessity of repairing the roof of the Agricultural building, and that he had received a proposition from Messrs. Lightfoot & Ormsbee to re-nail each and every shingle in said roof and replace all missing shingles and repair roof generally, for the sum of 35 cents per square of 100 feet. In addition to which the Society is to pay the difference in cost between common and galvanized nails, as it was deemed advisable to use the latter. The Secretary was directed to enter into contract in accordance with above terms.

### ENGINE AND BOILER.

The Secretary was directed to advertise for sale the steam engine and boiler belonging to the Society and located in Machinery Hall.

### RENT OF PARK.

Upon motion, the Superintendent and Secretary were directed to close a lease with Mr. Willard Gardner for renting Agricultural Park for one year, upon about the same terms as last year. The changes in said lease were as follows: The Society not to be required to replace any horses or implements during the term of lease, and the lessee to turn over all stalls used and occupied by his orders, free from rubbish of all kinds, on August 1, 1896.

## NIGHT WATCHMAN.

Upon motion, the appointment of D. M. Cox as night watchman was confirmed.

## FINANCIAL SECRETARY, ETC.

The salary of the Financial Secretary was fixed at \$200 for time employed.

The President and Secretary were authorized to sign the following resolution:

WHEREAS, Sundry bills now due, and the necessary running expenses of the State Agricultural Society from this time until State Fair receipts of 1896 are available, are estimated to be about \$15,000;

Resolved, That the President and Secretary be empowered to sign a corporation note for said amount, which note shall be placed in bank to be drawn against as needed, and that the bank officials be empowered to cancel said note with the first money deposited on our account in September, 1896.

Dated Sacramento, September 26, 1895.

## REPORT OF FINANCE COMMITTEE.

SACRAMENTO, December 12, 1895.

HON. FREDERICK COX, *Chairman of Finance Committee, State Agricultural Society*:

SIR: In compliance with your request to expert the books of the State Agricultural Society for the three fiscal years ending January 31, 1892, 1893, and 1894, respectively, I beg to state that I have thoroughly examined all books and accounts of the Society as kept by Edwin F. Smith, Secretary, and find the same correct.

The balance sheets as submitted to you by your Secretary for the fiscal years above named, have been compared with the books, and found correct.

I note the following errors on overpaid vouchers:

Voucher No. 285.	November, 1892	-----	\$4 00
Voucher No. 119.	1893	-----	1 10
Voucher No. 176.	1893	-----	30
Voucher No. 58.	1894	-----	20 00
			<hr/>
			\$25 40

I find an omission in Secretary's favor of \$40 for premium paid P. H. Murphy, November 11, 1893. Deducting \$25 40, amount overpaid on vouchers, from \$40, due Secretary for premium paid, leaves a balance of \$14 60 in the Secretary's favor.

The books are neat, clean, and excellently kept. The system of keeping books and accounts, as adopted by your Secretary, is perfect, and no change therein could I suggest. The accounts show much care and attention in their keeping, and for the amount of business done in the short space of time allowed, the errors are but trifling.

Very respectfully submitted.

R. R. FLINT, Expert.

## YOLO COUNTY.

A communication was received from the District Attorney of Yolo County, calling attention to the refusal of the Board to allow the second premium of \$250 to an exhibitor by the name of D. A. Jackson, claiming to represent Yolo County.

The Secretary was directed to notify the District Attorney that the Committee on Awards were not only satisfied of the irregularity of entry, but that the exhibit was not worthy a County Exhibit premium, under General Rule 41, page 14 of Premium List, and Special Rule 7, page 68, by reason of which no award was made.

## IMPROVEMENTS.

The question of removal of annex to Pavilion was taken up, and Directors Terry, Land, and Cox were named as a committee to obtain estimates and plans for the extension of the building on the west end, sale of engine and boiler, and ways and means of removing annex.

## NATIONAL TROTTING ASSOCIATION.

Mr. Joseph Cairn Simpson was voted the proxy of the California State Agricultural Society, to represent them at the next meeting of the National Trotting Association, to be held in New York City, February 12, 1896.

## PROF. C. H. ALLEN.

Prof. C. H. Allen was allowed \$44, account expenses incurred last State Fair in arranging booth exhibit of dried fruit.

## COMPLIMENTARIES.

Upon motion, tickets good for admission to Director's stand were ordered to be issued to ex-Presidents.

## ORGANIZATION.

Governor Budd not having sent in his list of appointees, organization of the Board for 1896 was postponed, and the Board adjourned to call of the Chair, it being agreed that as soon as the new appointees were named there should be a meeting of the Board for organization for the current year.



# PREMIUMS AWARDED—1895.

## FIRST DEPARTMENT—LIVE STOCK.

### HORSES.

Exhibit.	Exhibitor.	Award.
CLASS I—THOROUGHBRED HORSES.		
<i>Stallions.</i>		
John A, best four years old and over .....	Mrs. E. F. Smith, San Francisco ..	\$40 00
Mantell, second best .....	Mrs. W. M. Murry, Sacramento ..	20 00
Cabrillo, best three years old .....	W. F. Smith, Sacramento ..	15 00
Rey del Banditos, best two years old .....	Mrs. W. M. Murry, Sacramento ..	20 00
Joe Terry, second best .....	J. E. Terry, Sacramento ..	10 00
Weiland, best one year old .....	La Siesta Ranch, Menlo Park ..	15 00
Bay colt, by Three Cheers, second best .....	Mrs. W. M. Murry, Sacramento ..	7 50
Chestnut colt, by Morello, best colt under one year .....	Mrs. W. M. Murry, Sacramento ..	5 00
<i>Mares.</i>		
Jessie C, best four years old and over, with colt .....	Mrs. W. M. Murry, Sacramento ..	40 00
Miss Pickwick, second best .....	Mrs. W. M. Murry, Sacramento ..	20 00
Fabiola, best four years old and over .....	C. Halverson, Routiers ..	30 00
Marguerita, second best .....	Mrs. W. M. Murry, Sacramento ..	15 00
Circe, best three years old .....	Mrs. W. M. Murry, Sacramento ..	12 50
Duessa, best two years old .....	George K. Rider, Sacramento ..	15 00
Hagar, second best .....	W. F. Smith, Sacramento ..	7 50
Bay filly, by Three Cheers, best one year old .....	C. Halverson, Routiers ..	10 00
Modesto, second best .....	Mrs. W. M. Murry, Sacramento ..	5 00
Miss Morello, best under one year .....	Mrs. W. M. Murry, Sacramento ..	10 00
Bay filly, by Morello, second best .....	C. Halverson, Routiers ..	5 00
<i>Families.</i>		
Three Cheers, best thoroughbred sire, and five colts .....	Mrs. W. M. Murry, Sacramento ..	30 00
Jessie C, best thoroughbred dam, and two colts .....	Mrs. W. M. Murry, Sacramento ..	40 00
McKinney, best sire, other than thoroughbred, and five colts .....	C. A. Durfee, Los Angeles ..	60 00
Wanda, best dam, other than thoroughbred, and two colts .....	La Siesta Ranch, Menlo Park ..	40 00
CLASS II—STANDARD TROTTERS.		
<i>Stallions.</i>		
Diablo, best four years old and over .....	W. Murry, Pleasanton ..	30 00
McKinney, best four years old and over ..	C. A. Durfee, Los Angeles ..	30 00
Neilsoneer, best three years old .....	La Siesta Ranch, Menlo Park ..	15 00
Morengo, best two years old .....	C. F. Taylor, Sacramento ..	10 00
Wand, best one year old .....	La Siesta Ranch, Menlo Park ..	7 50
Diawood, best suckling colt .....	Mrs. J. P. Callendine, Sacramento ..	10 00
Warranty, second best .....	La Siesta Ranch, Menlo Park ..	5 00
Our Jack, best gelding .....	W. J. Irvine, Sacramento ..	25 00
Claudius, second best .....	Dr. Curnow, San José ..	15 00

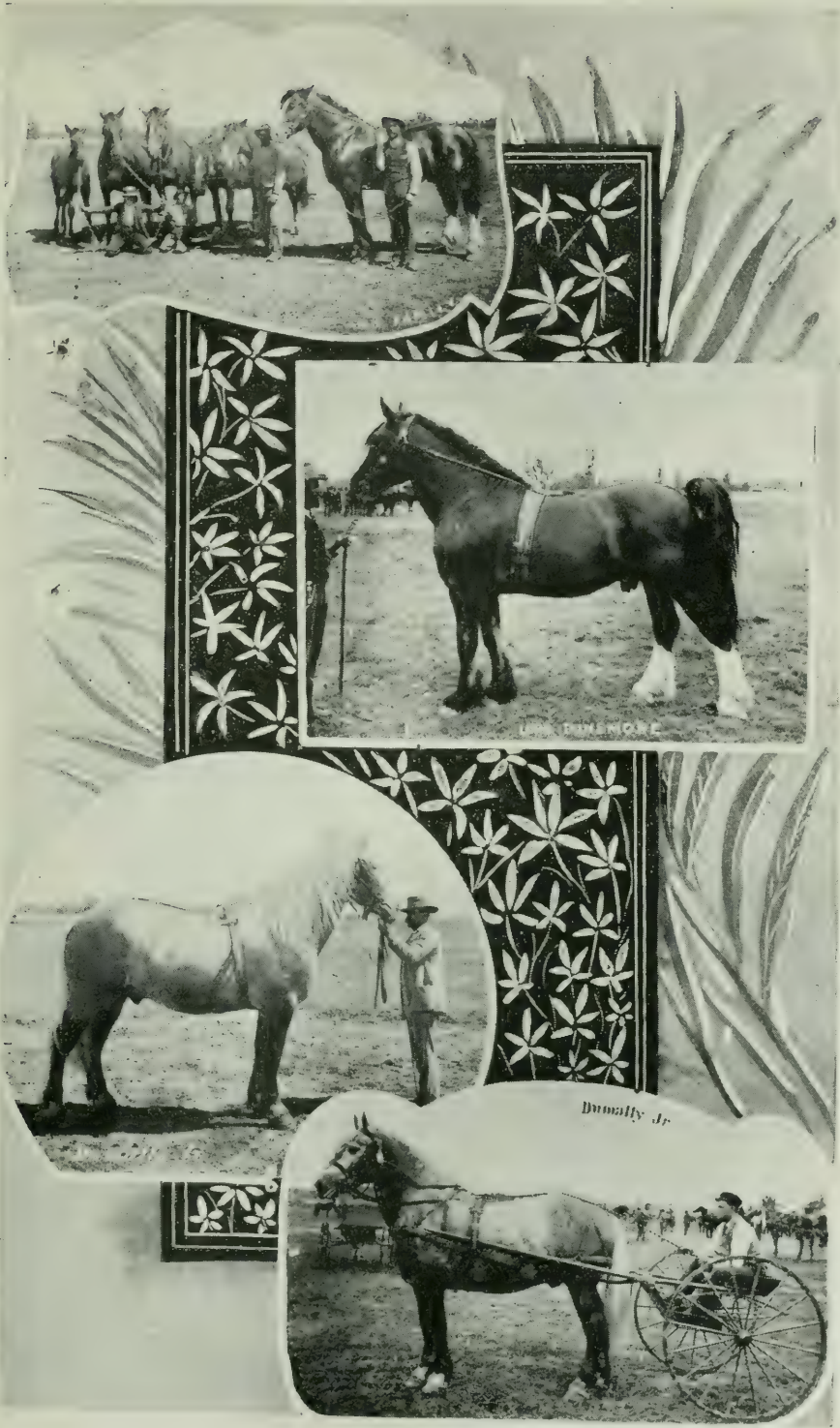
## FIRST DEPARTMENT—HORSES—Continued.

Exhibit.	Exhibitor.	Award.
<i>Mares.</i>		
Wanda, best four years old and over, with colt .....	La Siesta Ranch, Menlo Park .....	\$40 00
Mary Lou, second best .....	J. L. McCord, Sacramento .....	20 00
Altoonita, best four years old and over .....	C. Z. Hebert, Salinas .....	30 00
Lucy W, second best .....	L. H. McIntosh, Chico .....	15 00
Miss Easter Wilkes, best three years old .....	C. H. Gilman, Sacramento .....	30 00
Ollie Wood, second best .....	George Lassner, Freeport .....	15 00
Abaca Callendine, best two years old .....	Mrs. J. P. Callendine, Sacramento .....	20 00
Caress, second best .....	La Siesta Ranch, Menlo Park .....	10 00
Carissimo, best one year old .....	La Siesta Ranch, Menlo Park .....	5 00
Rifle, best suckling colt .....	La Siesta Ranch, Menlo Park .....	5 00
CLASS III—ROADSTERS.		
<i>Stallions.</i>		
Major P, best four years old and over .....	F. J. Post, Stockton .....	40 00
Van Fleet, second best .....	Mrs. Sadie F. Wiley, Sacramento .....	20 00
Will Rice, best two years old .....	Dr. C. E. Pinkham, Sacramento .....	20 00
Salisbury, second best .....	B. F. Langford, Lodi .....	10 00
Directus, best one year old .....	George F. Jacobs, Nevada City .....	7 50
Sis, best suckling colt .....	A. D. Miller, Walsh .....	10 00
Bravo, second best .....	W. F. Smith, Sacramento .....	5 00
Red Cross, best gelding .....	W. J. Irvine, Sacramento .....	25 00
Billy, second best .....	Mrs. Alice Trust, Sacramento .....	15 00
<i>Mares.</i>		
Lucoma, best four years old and over, with colt .....	I. Christie, Sacramento .....	40 00
Minnie, second best .....	W. J. Irvine, Sacramento .....	20 00
Molly, best four years old and over .....	Jacob Schmidt, Sacramento .....	30 00
Beautiful Belle, best three years old .....	R. H. Hansen, Isleton .....	30 00
Colley, second best .....	C. R. Dustin, Lodi .....	15 00
Nancy Ross, best two years old .....	J. Hill, Sacramento .....	20 00
Marie, second best .....	Mrs. J. P. Callendine, Sacramento .....	10 00
Cassie, best one year old .....	La Siesta Ranch, Menlo Park .....	10 00
May Blossom, second best .....	J. M. Henderson, Jr., Sacramento .....	5 00
Trilby, best suckling colt .....	Mrs. Sadie F. Wiley, Sacramento .....	10 00
Bay filly, by Sidmoor, second best .....	A. D. Miller, Walsh .....	5 00
CLASS IV—COACH HORSES.		
<i>Stallions.</i>		
Duke, best four years old and over .....	A. B. McRae, Roseville .....	40 00
Mt. Diablo, second best .....	Mrs. W. C. Stahl, Pleasant Grove .....	20 00
Joe, best one year old .....	H. S. Modison, Sacramento .....	15 00
Button, second best .....	A. B. McRae, Roseville .....	7 50
Captain, best gelding .....	A. B. McRae, Roseville .....	25 00
Maje, second best .....	H. H. Wilson, Marysville .....	15 00
<i>Mares.</i>		
Daisy, best four years old and over, with colt .....	A. B. McRae, Roseville .....	40 00
Belle, second best .....	H. H. Wilson, Marysville .....	20 00
Ladyship, best four years old and over .....	A. B. McRae, Roseville .....	30 00
Anna Laura, second best .....	H. H. Wilson, Marysville .....	15 00
Annie, best three years old .....	H. H. Wilson, Marysville .....	30 00
Black Bess, second best .....	A. B. McRae, Roseville .....	15 00
Topsy, best two years old .....	H. S. Modison, Sacramento .....	20 00
Belle, second best .....	H. H. Wilson, Marysville .....	10 00
May, best one year old .....	H. H. Wilson, Marysville .....	10 00
Lily, second best .....	A. B. McRae, Roseville .....	5 00
Babe, best suckling colt .....	A. B. McRae, Roseville .....	10 00
Daisy, second best .....	H. H. Wilson, Marysville .....	5 00
CLASS V—CARRIAGE TEAMS.		
Pride and Beauty, best .....	Ben E. Harris, San Francisco .....	40 00
Dick and Babely, second best .....	Mrs. Knauer, Sacramento .....	20 00

## FIRST DEPARTMENT—HORSES—Continued.

Exhibit.	Exhibitor.	Award.
CLASS VI—ROADSTER TEAMS.		
Soubrette and Algonita, best .....	La Siesta Ranch, Menlo Park .....	\$40 00
Rex and Roy, second best .....	Ben E. Harris, San Francisco .....	20 00
CLASS VII—NORMANS AND PERCHERONS.		
<i>Stallions.</i>		
Damala, Jr., best four years old and over .....	R. H. Hansen, Isleton .....	40 00
French Monarch, second best .....	H. H. Johnson, Sacramento .....	20 00
<i>Mares.</i>		
Bertha, best four years old and over, with colt .....	L. C. Ruble, Rio Vista .....	20 00
Dollie, best four years old and over .....	H. H. Johnson, Sacramento .....	30 00
Topsy, second best .....	H. H. Wilson, Marysville .....	15 00
Bay filly, by Bertem, best three years old .....	L. C. Ruble, Rio Vista .....	25 00
Pet, second best .....	A. B. McRae, Roseville .....	12 50
Susie Black, best two years old .....	F. Christopher, Florin .....	15 00
Chub, second best .....	A. B. McRae, Roseville .....	7 50
Brown filly, by Damala, Jr., best one year old .....	L. C. Ruble, Rio Vista .....	5 00
Bay filly, by Bertem, best suckling colt .....	L. C. Ruble, Rio Vista .....	5 00
CLASS VIII—SUFFOLK PUNCH.		
<i>Stallions.</i>		
Harry Fair, best suckling colt .....	L. C. Ruble, Rio Vista .....	10 00
Dick, second best .....	H. H. Wilson, Marysville .....	5 00
<i>Mares.</i>		
Nellie, best four years old and over, with colt .....	L. C. Ruble, Rio Vista .....	40 00
Julia, second best .....	H. H. Wilson, Marysville .....	20 00
Topsy, best four years old and over .....	H. S. Modison, Sacramento .....	30 00
Polly, second best .....	H. H. Wilson, Marysville .....	15 00
Mammie, best three years old .....	A. B. McRae, Roseville .....	25 00
Speckle, second best .....	H. H. Wilson, Marysville .....	12 50
CLASS IX—CLYDESDALES.		
<i>Stallions.</i>		
Lord Drumore, best four years old and over .....	J. E. Meadows, Lemoore .....	40 00
Pollack, second best .....	T. A. Nufer, Sonoma .....	20 00
George M., best one year old .....	J. E. Meadows, Lemoore .....	15 00
Prince, second best .....	F. Christopher, Florin .....	7 50
Clyde Boy, best suckling colt .....	T. A. Nufer, Sonoma .....	5 00
<i>Mares.</i>		
Else, best four years old and over, with colt .....	J. E. Meadows, Lemoore .....	40 00
Daisy, second best .....	H. H. Wilson, Marysville .....	20 00
Nell, best four years old and over .....	J. E. Meadows, Lemoore .....	30 00
Maud, second best .....	J. E. Meadows, Lemoore .....	15 00
Fanny, best three years old .....	H. S. Modison, Sacramento .....	25 00
Dolly, second best .....	F. Christopher, Florin .....	12 50
Nellie, best two years old .....	H. H. Johnson, Sacramento .....	7 50
Nig, best suckling colt .....	J. E. Meadows, Lemoore .....	5 00
CLASS X—ENGLISH SHIRES.		
<i>Stallions.</i>		
Glory II, best four years old and over .....	C. Studarus, Routiers .....	20 00
<i>Mares.</i>		
Topsy, best four years old and over, with colt .....	H. H. Wilson, Marysville .....	40 00
Maud, best four years old and over .....	A. B. McRae, Roseville .....	30 00
Fanny, second best .....	H. H. Wilson, Marysville .....	15 00
Lily, best three years old .....	H. H. Wilson, Marysville .....	25 00
May, second best .....	A. B. McRae, Roseville .....	12 50
Bess, best suckling colt .....	H. H. Wilson, Marysville .....	10 00





A GROUP OF PREMIUM DRAFT STALLIONS, EXHIBITED AT THE STATE FAIR OF 1895.



## FIRST DEPARTMENT—HORSES—Continued.

Exhibit.	Exhibitor.	Award.
WALKING MATCH.		
Pollack, best.....	T. A. Nufer, Sonoma.....	\$20 00
Lord Drumore, second best.....	J. E. Meadows, Lemoore.....	10 00
CLASS XI—SADDLE HORSES.		
Lion, best.....	Ben E. Harris, San Francisco.....	20 00
Yerba Buena, second best.....	C. J. Lansing, Jr., Sacramento.....	10 00
CLASS XII—JACKS, JENNIES, ETC.		
<i>Jacks.</i>		
Del Paso, best three years old.....	C. Studarus, Routiers.....	15 00
July, best two years old.....	C. Studarus, Routiers.....	10 00
Tom, best one year old.....	C. Studarus, Routiers.....	7 50
<i>Jennies.</i>		
Queen, best three years old.....	C. Studarus, Routiers.....	10 00
<i>Mules.</i>		
Mag and Jack, best three-year-old span.....	C. Studarus, Routiers.....	20 00
Kit and Lize, second best.....	H. H. Wilson, Marysville.....	10 00
Best two years old.....	H. H. Wilson, Marysville.....	15 00
Chloe, best one year old.....	W. A. French, Stockton.....	10 00

## CATTLE.

Exhibit.	Exhibitor.	Award.
FAT STOCK PREMIUMS.		
Eva of Argonaut, best steer, or spayed or barren heifer, three years old and over.....	E. J. Elliott, Sacramento.....	\$20 00
Rosie of Woodland, second best.....	W. B. Gibson, Woodland.....	10 00
Shylock, best two years old.....	A. Heilbron & Bro., Sacramento.....	10 00
CLASS I—DURHAMS.		
<i>Bulls.</i>		
Baron Fidget 2d, best three years old and over.....	Baden Stock Farm, Baden.....	30 00
Baron Duke 27th, second best.....	V. E. Hill, Hanford.....	15 00
Julius, best two years old.....	V. E. Hill, Hanford.....	20 00
Sir Knight, second best.....	P. H. Murphy, Perkins.....	10 00
King of Aberdeen 7th, best one year old.....	A. Heilbron & Bro., Sacramento.....	15 00
King of Aberdeen 5th, second best.....	A. Heilbron & Bro., Sacramento.....	7 50
Goliath, best calf.....	A. Heilbron & Bro., Sacramento.....	10 00
Baden Duke 30th, second best.....	Baden Stock Farm, Baden.....	5 00
<i>Cows.</i>		
Rose Ann 34th, best three years old and over.....	P. H. Murphy, Perkins.....	30 00
Miss Townley 2d, second best.....	Baden Stock Farm, Baden.....	15 00
Water Spring, best two years old.....	A. Heilbron & Bro., Sacramento.....	20 00
Baden Gwynn 7th, second best.....	Baden Stock Farm, Baden.....	10 00
Water Bird, best one year old.....	A. Heilbron & Bro., Sacramento.....	15 00
Queen of Aberdeen 7th, second best.....	A. Heilbron & Bro., Sacramento.....	7 50
Red Louan 3d, best heifer calf.....	P. H. Murphy, Perkins.....	10 00
Lucerne Fidget 7th, second best.....	Baden Stock Farm, Baden.....	5 00
<i>Herd.</i>		
Best over two years.....	A. Heilbron & Bro., Sacramento.....	40 00
Best under two years.....	A. Heilbron & Bro., Sacramento.....	20 00
<i>Sweepstakes.</i>		
Baron Fidget 2d, best bull any age.....	Baden Stock Farm, Baden.....	48 00
Water Queen, best cow any age.....	A. Heilbron & Bro., Sacramento.....	32 00



## FIRST DEPARTMENT—CATTLE—Continued.

Exhibit.	Exhibitor.	Award.
CLASS III—HEREFORDS.		
<i>Bulls.</i>		
Competitor, best three years old and over ..	F. Stauffer, Sacramento .....	\$30 00
Bill Nye, second best .....	A. Heilbron & Bro., Sacramento ..	15 00
Zephyr, best one year old .....	A. Heilbron & Bro., Sacramento ..	7 50
Sanson, best calf .....	A. Heilbron & Bro., Sacramento ..	5 00
<i>Cows.</i>		
Jessie H, best three years old .....	A. Heilbron & Bro., Sacramento ..	30 00
Modesty, second best .....	A. Heilbron & Bro., Sacramento ..	15 00
Springtime, best two years old .....	A. Heilbron & Bro., Sacramento ..	10 00
Crescent, best one year old .....	A. Heilbron & Bro., Sacramento ..	7 50
Gussie, best heifer calf .....	A. Heilbron & Bro., Sacramento ..	5 00
<i>Herd.</i>		
Pirate and four cows, best herd, two years old and over .....	A. Heilbron & Bro., Sacramento ..	20 00
Zephyr and four cows, best herd under two years old .....	A. Heilbron & Bro., Sacramento ..	10 00
<i>Sweepstakes.</i>		
Pirate, best bull any age .....	A. Heilbron & Bro., Sacramento ..	48 00
Lady Cora, best cow any age .....	A. Heilbron & Bro., Sacramento ..	48 00
CLASS IV—ANGUS OR GALLOWAYS.		
<i>Bulls.</i>		
Duke of Yolo 2d, best three years old and over .....	W. B. Gibson, Woodland .....	15 00
Dan of Dee, best two years old .....	E. J. Elliott, Sacramento .....	20 00
Little Wonder 12th, second best .....	W. B. Gibson, Woodland .....	10 00
Argonaut, best one year old .....	E. J. Elliott, Sacramento .....	15 00
Malvoia, second best .....	W. B. Gibson, Woodland .....	7 50
Doric, best calf .....	E. J. Elliott, Sacramento .....	10 00
Silverstein, second best .....	W. B. Gibson, Woodland .....	5 00
<i>Cows.</i>		
Fanny Funk, best three years old .....	W. B. Gibson, Woodland .....	30 00
Lady Argonaut, second best .....	E. J. Elliott, Sacramento .....	15 00
Darling Ruby 2d, best two years old .....	E. J. Elliott, Sacramento .....	20 00
State Fair, second best .....	W. B. Gibson, Woodland .....	10 00
May Etta, best one year old .....	E. J. Elliott, Sacramento .....	15 00
Woodland Fair, second best .....	W. B. Gibson, Woodland .....	7 50
Maid of C, best heifer calf .....	E. J. Elliott, Sacramento .....	10 00
Darling Ruby 3d, second best .....	E. J. Elliott, Sacramento .....	5 00
<i>Herd.</i>		
Best herd over two years .....	E. J. Elliott, Sacramento .....	40 00
Best herd under two years .....	E. J. Elliott, Sacramento .....	20 00
<i>Sweepstakes.</i>		
Dan of Dee, best bull any age .....	E. J. Elliott, Sacramento .....	48 00
Fanny Funk, best cow any age .....	W. B. Gibson, Woodland .....	52 00
CLASS VI—HOLSTEINS.		
<i>Bulls.</i>		
Clothilde 5th's Clothilde, best three years old and over .....	F. H. Burke, Menlo Park .....	15 00
Sir Walter, best two years old .....	F. H. Burke, Menlo Park .....	10 00
Sirocco, best one year old .....	F. H. Burke, Menlo Park .....	7 50
Best bull calf .....	F. H. Burke, Menlo Park .....	5 00
<i>Cows.</i>		
Rebecca Egmond 3d, best three years old and over .....	F. H. Burke, Menlo Park .....	15 00
Windward, best two years old .....	F. H. Burke, Menlo Park .....	10 00
Tessie Menlo, best one year old .....	F. H. Burke, Menlo Park .....	7 50
Juno Padua 2d, best heifer calf .....	F. H. Burke, Menlo Park .....	5 00

## FIRST DEPARTMENT—CATTLE—Continued.

Exhibit.	Exhibitor.	Award.
<i>Herds.</i>		
Best herd over two years .....	F. H. Burke, Menlo Park .....	\$20 00
Best herd under two years .....	F. H. Burke, Menlo Park .....	10 00
<i>Sweepstakes.</i>		
Clothilde 5th's Clothilde, best bull any age .....	F. H. Burke, Menlo Park .....	24 00
Rebecca Egmond 3d, best cow any age .....	F. H. Burke, Menlo Park .....	24 00
CLASS VII—JERSEYS.		
<i>Bulls.</i>		
Eugene Crouch, best three years old .....	P. J. Shields, Sacramento .....	30 00
Leland, second best .....	M. L. Eckles, San Dimas .....	15 00
December of Y. B., best two years old .....	Henry Pierce, San Francisco .....	20 00
Gilroy W., second best .....	Thomas Ward, Oakland .....	10 00
Roy of Y. B., best one year old .....	Henry Pierce, San Francisco .....	15 00
Granda Flora 2d, second best .....	Thomas Ward, Oakland .....	7 50
Lord of Y. B., best calf .....	Henry Pierce, San Francisco .....	10 00
Ommechumnes, second best .....	L. F. Eaton, Florin .....	5 00
<i>Cows.</i>		
Valentine of Y. B., best three years old and over .....	Henry Pierce, San Francisco .....	30 00
Lady Zettie, second best .....	P. J. Shields, Sacramento .....	15 00
Carmenita, best two years old .....	P. J. Shields, Sacramento .....	20 00
Pansy of Y. B., second best .....	Henry Pierce, San Francisco .....	10 00
Lela E, best one year old .....	L. F. Eaton, Florin .....	15 00
Daisy Horst, second best .....	P. J. Shields, Sacramento .....	7 50
Wanda E, best heifer calf .....	L. F. Eaton, Florin .....	10 00
Viona E, second best .....	L. F. Eaton, Florin .....	5 00
<i>Herds.</i>		
Best herd over two years .....	Henry Pierce, San Francisco .....	40 00
Best herd under two years .....	L. F. Eaton, Florin .....	20 00
<i>Sweepstakes.</i>		
El Toro of Y. B., best bull any age .....	Henry Pierce, San Francisco .....	48 00
Valentine of Y. B., best cow any age .....	Henry Pierce, San Francisco .....	48 00
CLASS VIII—HERD SWEEPSTAKES—BEEF BREEDS.		
Best herd, consisting of one bull and four females .....	A. Heilbron & Bro., Sacramento .....	97 50
CLASS IX—GRAND SWEEPSTAKES—BEEF BREEDS.		
<i>Bulls.</i>		
10th Lord of Aberdeen, best three years old and over .....	A. Heilbron & Bro., Sacramento .....	39 00
Dan of Dee, best two years old .....	E. J. Elliott, Sacramento .....	24 00
King of Aberdeen 5th, best one year old .....	A. Heilbron & Bro., Sacramento .....	24 00
Duke of Brunswick, best calf .....	P. H. Murphy, Perkins .....	16 00
<i>Cows.</i>		
Duchess of Wildflower, best three years old and over .....	A. Heilbron & Bro., Sacramento .....	42 00
Water Spring, best two years old .....	A. Heilbron & Bro., Sacramento .....	28 00
Water Cloud, best one year old .....	A. Heilbron & Bro., Sacramento .....	21 00
Queen of Aberdeen 10th, best heifer calf .....	A. Heilbron & Bro., Sacramento .....	14 00
CLASS X—DAIRY PRIZES.		
Soypha (imp.), five years old and over—first prize .....	F. H. Burke, Menlo Park .....	60 00
Valentine of Y. B., four years old—first prize .....	Henry Pierce, San Francisco .....	50 00
Josie of Y. B., four years old—second prize .....	Henry Pierce, San Francisco .....	25 00
Jersey Lily W, three years old—first prize .....	Mrs. Thos. Ward, Oakland .....	40 00
Carlotta S, three years old—second prize .....	P. J. Shields, Sacramento .....	20 00
Pansy of Y. B., two years old—first prize .....	Henry Pierce, San Francisco .....	30 00
Bracelet 9th, two years old—second prize .....	Baden Stock Farm, Baden .....	15 00

## SHEEP.

Exhibit.	Exhibitor.	Award.
CLASS I—SPANISH MERINO.		
Little Giant, best ram two years old and over .....	E. A. Bullard, Woodland .....	\$10 00
Comet, best ram one year old and under two .....	E. A. Bullard, Woodland .....	7 50
Best three ram lambs .....	E. A. Bullard, Woodland .....	10 00
Best pen five ewes, two years old .....	E. A. Bullard, Woodland .....	10 00
Best pen five ewes, one year old and under two .....	E. A. Bullard, Woodland .....	10 00
Best five ewe lambs .....	E. A. Bullard, Woodland .....	10 00
Best ram and five of his lambs .....	E. A. Bullard, Woodland .....	10 00
CLASS II—FRENCH MERINO.		
Best ram, two years old and over .....	J. H. Glide, Sacramento .....	10 00
Best ram, under two years .....	J. H. Glide, Sacramento .....	7 50
Best three ram lambs .....	J. H. Glide, Sacramento .....	10 00
Best pen five ewes, two years old .....	J. H. Glide, Sacramento .....	10 00
Best pen five ewes, under two years .....	J. H. Glide, Sacramento .....	10 00
Best five ewe lambs .....	J. H. Glide, Sacramento .....	10 00
Best ram and five of his lambs .....	J. H. Glide, Sacramento .....	10 00
CLASS III—SOUTHDOWN.		
Richard, best ram, any age .....	Geo. Bement & Son, East Oakland .....	10 00
Best pen of five ewes, any age .....	Geo. Bement & Son, East Oakland .....	10 00
CLASS V—SHROPSHIRE.		
Best ram, any age .....	J. H. Glide, Sacramento .....	10 00
Best pen of five ewes, any age .....	J. H. Glide, Sacramento .....	10 00
Best ram and five of his lambs .....	J. H. Glide, Sacramento .....	10 00
Best three ram lambs .....	J. H. Glide, Sacramento .....	7 50
Best five ewe lambs .....	J. H. Glide, Sacramento .....	7 50
PERSIAN SHEEP (SPECIAL).		
Best ram of any age .....	C. P. Bailey, San José .....	10 00
Best ram and five of his lambs .....	C. P. Bailey, San José .....	10 00

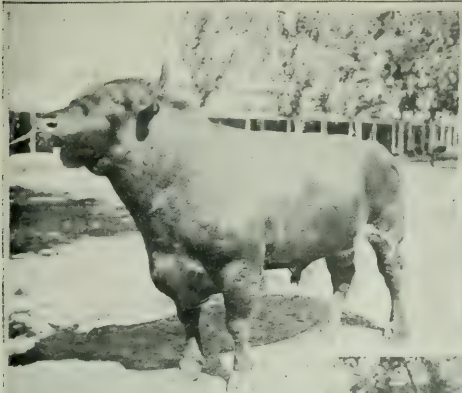
## ANGORA GOATS.

Exhibit.	Exhibitor.	Award.
THOROUGHBEREDS.		
Alto, best buck two years old and over .....	C. E. Bailey, San José .....	\$15 00
Lorenzo, second best .....	C. P. Bailey, San José .....	7 50
Reno, best under two years .....	C. P. Bailey, San José .....	10 00
Czar, second best .....	C. E. Bailey, San José .....	5 00
Best pen three does two years old .....	C. P. Bailey, San José .....	15 00
Second best .....	C. E. Bailey, San José .....	7 50
Best pen three does under two years .....	C. E. Bailey, San José .....	10 00
Second best .....	C. P. Bailey, San José .....	5 00
Best herd of ten, any age or breed .....	C. P. Bailey, San José .....	25 00
Second best .....	C. P. Bailey, San José .....	10 00

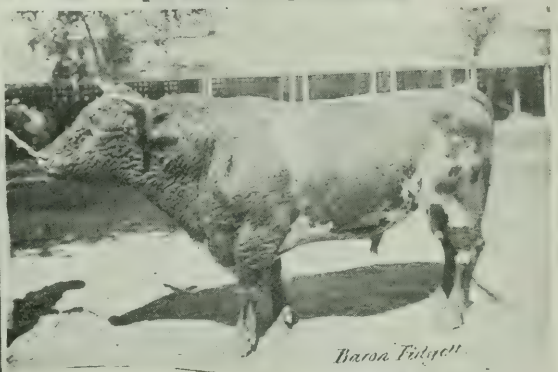
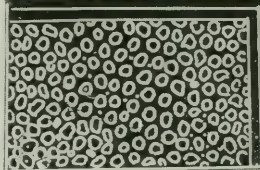
## SWINE.

Exhibit.	Exhibitor.	Award.
CLASS I—BERKSHIRE.		
<i>Boars.</i>		
Royal Prince, best two years old and over .....	Sessions & Co., Los Angeles .....	\$20 00
Napa Model, second best .....	Thomas Waite, Perkins .....	10 00
Pansy, best one year old and under two .....	Sessions & Co., Los Angeles .....	15 00
Peter S., second best .....	Thomas Waite, Perkins .....	7 50
D. E. W., best six months and under one year .....	J. P. Ashley, Linden .....	10 00
Crib, second best .....	Thomas Waite, Perkins .....	5 00

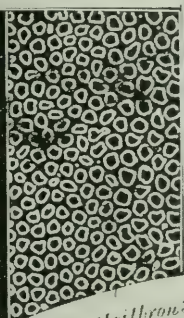




*Lord Aberdeen 10<sup>th</sup>*



*Baron Fulgott*



*A Heilbron's Prize Cattle, Durhams & Herefords*





## FIRST DEPARTMENT—SWINE—Continued.

Exhibit.	Exhibitor.	Award.
<i>Sows.</i>		
Cherry Blossom Sallie 3d, best two years old and over .....	Sessions & Co., Los Angeles.....	\$20 00
Queen, second best .....	P. H. Murphy, Perkins.....	10 00
Black Rose, best one year old and under two .....	P. H. Murphy, Perkins.....	15 00
La Belle, second best .....	Thomas Waite, Perkins.....	7 50
Ohio Queen, best six months and under one year .....	J. P. Ashley, Linden .....	10 00
Queen Anne, second best.....	P. H. Murphy, Perkins.....	5 00
Lynwood Olive, best sow, and six pigs under three months.....	Sessions & Co., Los Angeles.....	20 00
Bettee and six pigs, second best.....	H. H. Wilson, Marysville.....	10 00
Best pair pigs under six months .....	Sessions & Co., Los Angeles.....	15 00
Second best.....	Thomas Waite, Perkins.....	7 50
<i>Sweepstakes.</i>		
Royal Prince, best boar any age.....	Sessions & Co., Los Angeles.....	26 00
Black Rose, best sow any age.....	P. H. Murphy, Perkins.....	24 00
Best pen six pigs under six months .....	Sessions & Co., Los Angeles.....	24 00
Pansy, two sows (Lynwood Olive, Beauty Goldsmith), and six pigs, best family .....	Sessions & Co., Los Angeles.....	24 00
CLASS II—ESSEX.		
<i>Boars.</i>		
Black Compton, best two years old and over .....	L. F. Eaton, Florin.....	10 00
Diablo, best one year old and under two.....	Geo. Bement & Son, East Oakland.....	15 00
Black Apollo, second best .....	L. F. Eaton, Florin.....	7 50
Moss Rose King, best six months old and under one year .....	J. P. Ashley, Linden .....	5 00
<i>Sows.</i>		
Lady French, best two years old and over.....	J. P. Ashley, Linden .....	20 00
Bessie, second best .....	J. P. Ashley, Linden .....	10 00
Alameda, best one year old and under two.....	Geo. Bement & Son, East Oakland.....	15 00
Dolly, second best .....	J. P. Ashley, Linden .....	7 50
Linden Belle, best six months old and under one year .....	J. P. Ashley, Linden .....	10 00
Alice, second best .....	L. F. Eaton, Florin.....	5 00
Coal Black Rose, best sow, and six pigs.....	J. P. Ashley, Linden .....	10 00
Best pair pigs under six months .....	L. F. Eaton, Florin.....	15 00
Second best .....	J. P. Ashley, Linden .....	7 50
<i>Sweepstakes.</i>		
Black Compton, best boar any age .....	L. F. Eaton, Florin.....	24 00
Young Bertha, best sow any age.....	Geo. Bement & Son, East Oakland.....	24 00
Best pen of six pigs under six months.....	Geo. Bement & Son, East Oakland.....	24 00
Moss Rose King, two sows (Coal Black Rose, Lady French), and six pigs, best family .....	J. P. Ashley, Linden .....	26 00
CLASS III—POLAND-CHINA.		
<i>Boars.</i>		
Duncan, best two years old and over .....	C. A. Schmiedte, Spottiswood .....	20 00
Ovation, second best.....	P. H. Murphy, Perkins.....	10 00
Latest Wilkes, best one year old and under two .....	Sessions & Co., Los Angeles.....	15 00
McKinley, Jr., second best.....	Mrs. R. A. Lockett, Sacramento.....	7 50
Cook's Tecumseh, best six months old and under one year .....	C. A. Schmiedte, Spottiswood.....	10 00
Duncan, Jr., second best.....	C. A. Schmiedte, Spottiswood.....	5 00
<i>Sows.</i>		
U. S. Beauty, best two years old and over.....	C. A. Schmiedte, Spottiswood.....	20 00
Belle of Richwood, second best.....	P. H. Murphy, Perkins.....	10 00
Duchess, best one year old and under two.....	C. A. Schmiedte, Spottiswood.....	15 00
Sanders' Queen, second best .....	Mrs. R. A. Lockett, Sacramento.....	7 50

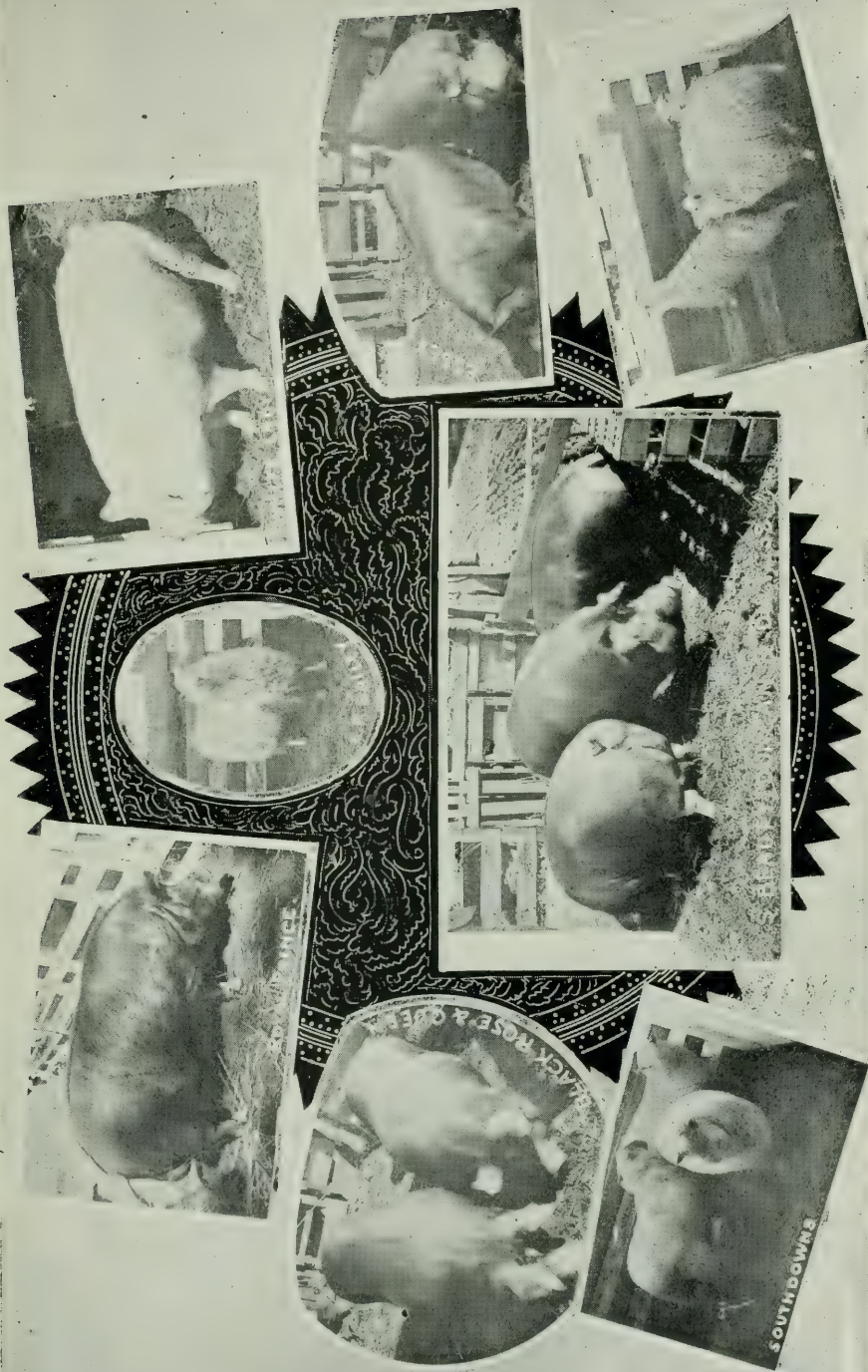


## FIRST DEPARTMENT—SWINE—Continued.

Exhibit.	Exhibitor.	Award.
<i>Sows—Continued.</i>		
Belle G, best six months old and under one year .....	J. P. Ashley, Linden .....	\$10 00
Rose of Kern, second best .....	C. A. Schmiedte, Spottiswood .....	5 00
Coler's Queen, best sow and six pigs under three months .....	Sessions & Co., Los Angeles .....	20 00
Best on Earth, second best .....	C. A. Schmiedte, Spottiswood .....	10 00
Best pair pigs under six months .....	C. A. Schmiedte, Spottiswood .....	15 00
Second best .....	P. H. Murphy, Perkins .....	7 50
<i>Sweepstakes.</i>		
Duncan, best boar any age .....	C. A. Schmiedte, Spottiswood .....	30 00
Duchess, best sow any age .....	C. A. Schmiedte, Spottiswood .....	34 00
Best pen six pigs under six months .....	C. A. Schmiedte, Spottiswood .....	26 00
Duncan, two sows (Duchess, U. S. Beauty), and six pigs, best family .....	C. A. Schmiedte, Spottiswood .....	26 00
SMALL YORKSHIRE (SPECIAL).		
<i>Boars.</i>		
Benham, best two years old and over .....	W. A. French, Stockton .....	20 00
Russ, second best .....	M. L. Eckles, San Dimas .....	10 00
Whiteman, best one year old and under two .....	W. A. French, Stockton .....	15 00
Billy Barlow, second best .....	J. P. Ashley, Linden .....	7 50
Snowball, best six months old and under one year .....	W. A. French, Stockton .....	5 00
<i>Sows.</i>		
Maid of Monterey, best two years old and over .....	W. A. French, Stockton .....	20 00
Belle of York, second best .....	M. L. Eckles, San Dimas .....	10 00
Snowflake, best one year old and under two .....	J. P. Ashley, Linden .....	15 00
White Swan, second best .....	W. A. French, Stockton .....	7 50
My Pet, best six months old and under one year .....	W. A. French, Stockton .....	10 00
Gleam, second best .....	M. L. Eckles, San Dimas .....	5 00
Best pair pigs under six months .....	W. A. French, Stockton .....	15 00
White Lady, best sow and six pigs .....	W. A. French, Stockton .....	10 00

## POULTRY.

Exhibit.	Exhibitor.	Award.
LIGHT BRAHMAS.		
Best cock .....	Reliance Poultry Farm, Stockton .....	\$2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best hen .....	Mrs. E. A. Murray, Sacramento .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best cockerel .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	J. P. Callendine, Sacramento .....	1 00
Best pullet .....	Mrs. F. H. Snow, San José .....	2 00
Best breeding pen .....	A. J. Schmitgen, Sacramento .....	6 00
Second best .....	Mrs. F. H. Snow, San José .....	4 00
DARK BRAHMAS.		
Best cock .....	A. J. Schmitgen, Sacramento .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best hen .....	A. J. Schmitgen, Sacramento .....	2 00
Second best .....	A. J. Schmitgen, Sacramento .....	1 00
Best pullet .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best breeding pen .....	A. J. Schmitgen, Sacramento .....	6 00
Second best .....	Mrs. F. H. Snow, San José .....	4 00
BLACK LANGSHANS.		
Best cockerel .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best pullet .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best breeding pen .....	F. P. Lowell, Sacramento .....	6 00



A GROUP OF PREMIUM SWINE, SHEEP AND GOATS, EXHIBITED BY THE BREEDERS OF CALIFORNIA, AT THE STATE FAIR OF 1895.



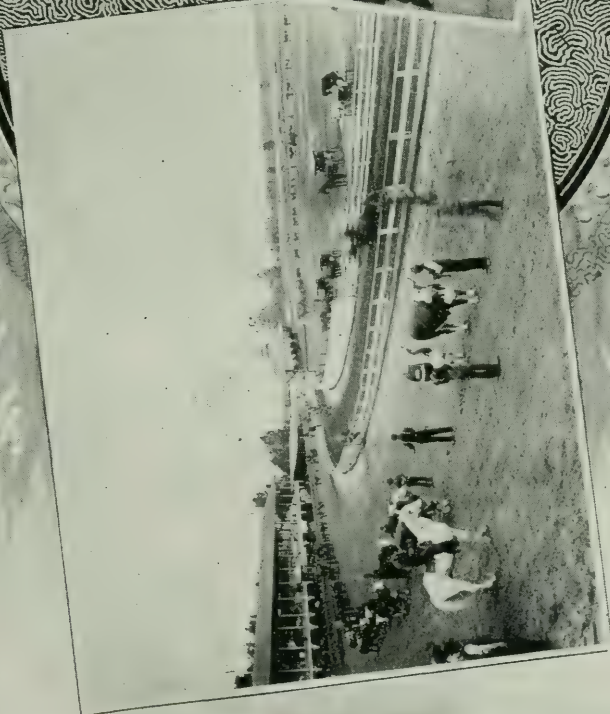
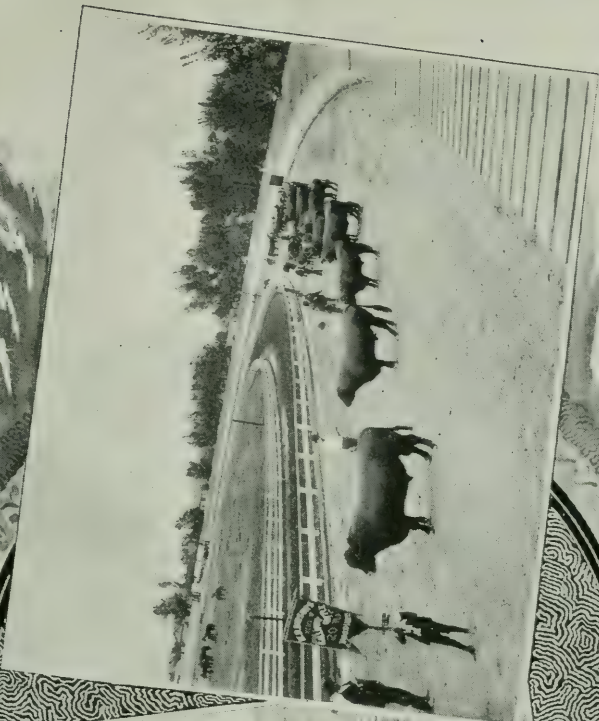


## FIRST DEPARTMENT—POULTRY—Continued.

Exhibit.	Exhibitor.	Award.
WHITE LANGSHANS.		
Best cockerel .....	F. P. Lowell, Sacramento .....	\$2 00
Best pullet .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
BUFF COCHINS.		
Best cock .....	Mrs. R. L. Wait, Sacramento .....	2 00
Second best .....	Mrs. F. E. Williams, San José .....	1 00
Best hen .....	Mrs. F. E. Williams, San José .....	2 00
Second best .....	Mrs. R. L. Wait, Sacramento .....	1 00
Best cockerel .....	Mrs. F. E. Williams, San José .....	2 00
Second best .....	Mrs. F. E. Williams, San José .....	1 00
Best pullet .....	Mrs. F. E. Williams, San José .....	2 00
Second best .....	Mrs. F. E. Williams, San José .....	1 00
Best breeding pen .....	Mrs. R. L. Wait, Sacramento .....	6 00
Second best .....	Mrs. F. E. Williams, San José .....	4 00
PARTRIDGE COCHINS.		
Best hen .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
PLYMOUTH ROCKS.		
Best cock .....	W. Thomas, Lockeford .....	2 00
Second best .....	A. J. Schmitgen, Sacramento .....	1 00
Best hen .....	A. J. Schmitgen, Sacramento .....	2 00
Second best .....	W. Thomas, Lockeford .....	1 00
Best cockerel .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	W. Thomas, Lockeford .....	1 00
Best pullet .....	W. Thomas, Lockeford .....	2 00
Second best .....	W. Thomas, Lockeford .....	1 00
Best breeding pen .....	A. J. Schmitgen, Sacramento .....	6 00
Second best .....	F. P. Lowell, Sacramento .....	4 00
BLACK LEGHORNS.		
Best cock .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best hen .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best cockerel .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	I. P. Eldred, Sacramento .....	1 00
Best pullet .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best breeding pen .....	French Bros., Stockton .....	6 00
Second best .....	F. P. Lowell, Sacramento .....	4 00
BROWN LEGHORNS.		
Best cock .....	French Bros., Stockton .....	2 00
Second best .....	Mrs. E. A. Murray, Sacramento .....	1 00
Best hen .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best cockerel .....	French Bros., Stockton .....	2 00
Second best .....	Mrs. E. A. Murray, Sacramento .....	1 00
Best pullet .....	French Bros., Stockton .....	2 00
Second best .....	Mrs. E. A. Murray, Sacramento .....	1 00
Best breeding pen .....	French Bros., Stockton .....	6 00
Second best .....	Mrs. E. A. Murray, Sacramento .....	4 00
WHITE LEGHORNS.		
Best cock .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best hen .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best cockerel .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	A. J. Schmitgen, Sacramento .....	1 00
Best pullet .....	French Bros., Stockton .....	2 00
Second best .....	A. J. Schmitgen, Sacramento .....	1 00
Best breeding pen .....	French Bros., Stockton .....	6 00
Second best .....	Reliance Poultry Farm, Stockton .....	4 00

## FIRST DEPARTMENT—POULTRY—Continued.

Exhibit.	Exhibitor.	Award.
<b>BUFF LEGHORNS.</b>		
Best cock .....	Mrs. F. H. Snow, San José .....	\$2 00
Best hen .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best cockerel .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best pullet .....	Mrs. F. E. Williams, San José .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best breeding pen .....	Mrs. F. E. Williams, San José .....	6 00
Second best .....	Mrs. F. H. Snow, San José .....	4 00
<b>ANDALUSIANS.</b>		
Best cock .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best hen .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best cockerel .....	F. P. Lowell, Sacramento .....	2 00
Best pullet .....	French Bros., Stockton .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best breeding pen .....	French Bros., Stockton .....	6 00
Second best .....	F. P. Lowell, Sacramento .....	4 00
<b>WHITE-FACED BLACK SPANISH.</b>		
Best cock .....	F. P. Lowell, Sacramento .....	2 00
Best hen .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best pullet .....	F. P. Lowell, Sacramento .....	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best breeding pen .....	F. P. Lowell, Sacramento .....	6 00
<b>HOUDANS.</b>		
Best cock .....	J. P. Callendine, Sacramento .....	2 00
Best hen .....	J. P. Callendine, Sacramento .....	2 00
Second best .....	J. P. Callendine, Sacramento .....	1 00
Best cockerel .....	J. P. Callendine, Sacramento .....	2 00
Best pullet .....	J. P. Callendine, Sacramento .....	2 00
Second best .....	J. P. Callendine, Sacramento .....	1 00
Best breeding pen .....	J. P. Callendine, Sacramento .....	6 00
<b>SILVER-SPANGLED HAMBURGS.</b>		
Best cock .....	Reliance Poultry Farm, Stockton .....	2 00
Second best .....	Reliance Poultry Farm, Stockton .....	1 00
Best hen .....	Reliance Poultry Farm, Stockton .....	2 00
Second best .....	Reliance Poultry Farm, Stockton .....	1 00
Best cockerel .....	Reliance Poultry Farm, Stockton .....	2 00
Second best .....	Reliance Poultry Farm, Stockton .....	1 00
Best pullet .....	Reliance Poultry Farm, Stockton .....	2 00
Second best .....	Reliance Poultry Farm, Stockton .....	1 00
Best breeding pen .....	Reliance Poultry Farm, Stockton .....	6 00
<b>POLISH.</b>		
Best cock .....	Mrs. F. H. Snow, San José .....	2 00
Best hen .....	Mrs. F. H. Snow, San José .....	2 00
Best cockerel .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Reliance Poultry Farm, Stockton .....	1 00
Best pullet .....	Reliance Poultry Farm, Stockton .....	2 00
Best breeding pen .....	Reliance Poultry Farm, Stockton .....	6 00
Second best .....	Mrs. F. H. Snow, San José .....	4 00
<b>GOLDEN POLISH.</b>		
Best cockerel .....	Mrs. F. E. Williams, San José .....	2 00
Second best .....	Mrs. F. E. Williams, San José .....	1 00
Best pullet .....	Mrs. F. E. Williams, San José .....	2 00
<b>WYANDOTTES.</b>		
Best cock .....	French Bros., Stockton .....	2 00
Second best .....	C. W. Eldred, Sacramento .....	1 00
Best hen .....	C. W. Eldred, Sacramento .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best cockerel .....	C. W. Eldred, Sacramento .....	2 00
Best breeding pen .....	French Bros., Stockton .....	6 00
Second best .....	C. W. Eldred, Sacramento .....	4 00



THE STOCK PARADE AT THE STATE FAIR OF 1895.





## FIRST DEPARTMENT—POULTRY—Continued.

Exhibit.	Exhibitor.	Award.
WHITE MINORCAS.		
Best cock .....	Reliance Poultry Farm, Stockton..	\$2 00
Second best .....	French Bros., Stockton .....	1 00
Best hen .....	French Bros., Stockton .....	2 00
Second best .....	Reliance Poultry Farm, Stockton..	1 00
Best cockerel .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best pullet .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best breeding pen .....	Reliance Poultry Farm, Stockton..	6 00
Second best .....	French Bros., Stockton .....	4 00
BLACK MINORCAS.		
Best cock .....	Reliance Poultry Farm, Stockton..	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best hen .....	Reliance Poultry Farm, Stockton..	2 00
Second best .....	F. P. Lowell, Sacramento .....	1 00
Best cockerel .....	Reliance Poultry Farm, Stockton..	2 00
Second best .....	French Bros., Stockton .....	1 00
Best pullet .....	Reliance Poultry Farm, Stockton..	2 00
Second best .....	French Bros., Stockton .....	1 00
Best breeding pen .....	Reliance Poultry Farm, Stockton..	6 00
Second best .....	F. P. Lowell, Sacramento .....	4 00
RED PYLE GAMES.		
Best hen .....	H. S. Modison, Sacramento .....	2 00
Second best .....	H. S. Modison, Sacramento .....	1 00
SEABRIGHT BANTAMS.		
Best hen .....	Mrs. F. H. Snow, San José .....	2 00
GAME BANTAMS.		
Best cock .....	French Bros., Stockton .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best hen .....	French Bros., Stockton .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best breeding pen .....	French Bros., Stockton .....	6 00
Second best .....	Mrs. F. H. Snow, San José .....	4 00
BRONZE TURKEYS.		
Best pair .....	W. Thomas, Lockeford .....	10 00
Second best .....	French Bros., Stockton .....	5 00
NARRAGANSETT TURKEYS.		
Best pair .....	French Bros., Stockton .....	10 00
Second best .....	Reliance Poultry Farm, Stockton..	5 00
GEESE.		
Best pair Toulouse geese .....	French Bros., Stockton .....	5 00
Second best .....	H. S. Modison, Sacramento .....	3 00
DUCKS.		
Best pair Pekin ducks .....	F. P. Lowell, Sacramento .....	5 00
Second best .....	W. Thomas, Lockeford .....	3 00
DRESSED POULTRY.		
Best display dressed poultry .....	Mrs. E. Shields, Sacramento .....	5 00
Best pair turkeys .....	Mrs. E. Shields, Sacramento .....	3 00
Best pair chickens .....	Mrs. E. Shields, Sacramento .....	2 00
Best pair broilers .....	Mrs. E. Shields, Sacramento .....	2 00
Best pair ducks .....	Mrs. E. Shields, Sacramento .....	2 00
SPECIAL.		
JAPANESE GAMES.		
Best cock .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best hen .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00

## FIRST DEPARTMENT--POULTRY--Continued.

Exhibit.	Exhibitor.	Award.
CORNISH INDIAN GAMES.		
Best cock .....	French Bros., Stockton .....	\$2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best hen .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best cockerel .....	French Bros., Stockton .....	2 00
Best pullet .....	French Bros., Stockton .....	2 00
Second best .....	French Bros., Stockton .....	1 00
Best breeding pen .....	French Bros., Stockton .....	6 00
JAPANESE BANTAMS.		
Best cock .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
Best hen .....	Mrs. F. H. Snow, San José .....	2 00
Second best .....	Mrs. F. H. Snow, San José .....	1 00
SWEEPSTAKES.		
First premium .....	French Bros., Stockton .....	15 00
Second premium .....	Reliance Poultry Farm, Stockton .....	10 00

## SECOND DEPARTMENT.

## MACHINERY, IMPLEMENTS, ETC.

Exhibit.	Exhibitor.	Award.
CLASS I--MACHINERY, ENGINES, ETC.		
Best centripetal pump .....	Krogh Mfg. Co., San Francisco .....	\$20 00
Best vapor engine .....	M. L. Mery, Chico .....	30 00
Best fire extinguisher .....	J. W. Turner, Sacramento .....	Diploma.
Best well pump .....	H. K. Wallace, Sacramento .....	\$10 00
Best spray pump for orchards .....	J. C. Ollard & Co., Tacoma, Wash. .....	25 00
CLASS II--AGRICULTURAL MACHINES--FIRST DIVISION.		
Best display of agricultural machinery by one house .....	Benicia Agricultural Wks., Benicia .....	25 00
Best sweep horse-power .....	Benicia Agricultural Wks., Benicia .....	5 00
Best threshing machine .....	Baker & Hamilton, Sacramento .....	15 00
Best cider mill and press .....	Baker & Hamilton, Sacramento .....	1 00
Best hay rake .....	Baker & Hamilton, Sacramento .....	5 00
Best hay and straw cutter .....	Baker & Hamilton, Sacramento .....	1 00
Best power corn sheller .....	Baker & Hamilton, Sacramento .....	1 00
Best hand corn sheller .....	Baker & Hamilton, Sacramento .....	1 00
Best lawn mower .....	Schaw, Ingram, Batchelor & Co., Sac. .....	1 00
Best gopher trap .....	Schaw, Ingram, Batchelor & Co., Sac. .....	1 00
Best post-hole auger .....	Schaw, Ingram, Batchelor & Co., Sac. .....	1 00
Best vegetable cutter .....	Schaw, Ingram, Batchelor & Co., Sac. .....	1 00
Best lawn sprinkler .....	Schaw, Ingram, Batchelor & Co., Sac. .....	1 00
Best almond sheller .....	W. G. Read, Davisville .....	Diploma.
CLASS III--AGRICULTURAL MACHINES--SECOND DIVISION.		
Best harrow .....	Benicia Agricultural Wks., Benicia .....	\$1 00
Best cultivator .....	Benicia Agricultural Wks., Benicia .....	10 00
Best weed cutter .....	Benicia Agricultural Wks., Benicia .....	1 00
Best horse hoe .....	Benicia Agricultural Wks., Benicia .....	1 00
Best wheat drill .....	Baker & Hamilton, Sacramento .....	5 00
Best self-raking reaping machine .....	Baker & Hamilton, Sacramento .....	5 00
Best combined reaper and mower .....	Baker & Hamilton, Sacramento .....	5 00
Best potato digger .....	Baker & Hamilton, Sacramento .....	1 00
Best one-horse cultivator .....	Baker & Hamilton, Sacramento .....	5 00
Best double shovel plow .....	Baker & Hamilton, Sacramento .....	1 00
Best grain broadcast sowing machine .....	Stanton, Thomson & Co., Sac'to .....	5 00
Best mowing machine .....	Stanton, Thomson & Co., Sac'to .....	5 00



## SECOND DEPARTMENT—MACHINERY, IMPLEMENTS, ETC.—Continued.

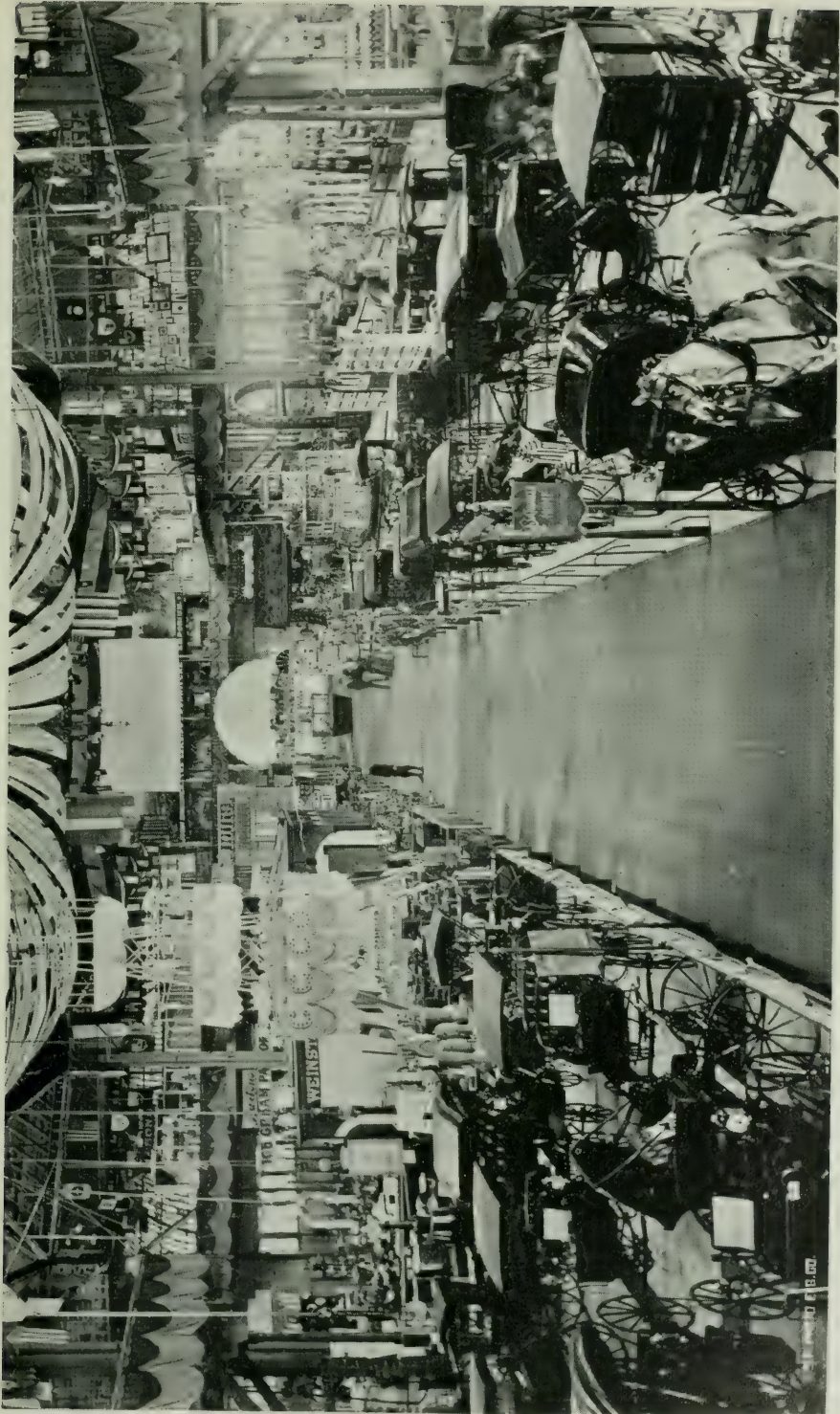
Exhibit.	Exhibitor.	Award.
CLASS IV—AGRICULTURAL MACHINES— THIRD DIVISION.		
Best fanning mill .....	Baker & Hamilton, Sacramento...	\$1 00
Best farm gate .....	Page Woven Wire Fence Co., Tulare	Sil. Med.
Best ornamental fence .....	Page Woven Wire Fence Co., Tulare	Diploma.
Best windmill .....	Stanton, Thomson & Co., Sac'to...	\$15 00
CLASS V—TOOLS AND HOUSEHOLD IMPLE- MENTS.		
Best wine and cider press .....	Benicia Agricultural Wks., Benicia	6 00
Best road scraper .....	J. W. Turner, Sacramento .....	10 00
Best display of harvesting tools .....	Baker & Hamilton, Sacramento...	5 00
Best garden seed drill .....	Baker & Hamilton, Sacramento...	1 00
Best fruit grader .....	Baker & Hamilton, Sacramento...	5 00
Best pruning shears .....	Baker & Hamilton, Sacramento...	2 50
Best clingstone pitter .....	Baker & Hamilton, Sacramento...	5 00
Best apricot cutter .....	Baker & Hamilton, Sacramento...	5 00
Best creamery foot-power churn .....	J. A. Gibson, Sacramento .....	5 00
Best cabbage cutter .....	Schaw, Ingram, Batcher & Co., Sac.	2 00
Best sausage meat cutter and stuffer .....	Schaw, Ingram, Batcher & Co., Sac.	2 00
Best clothes wringer .....	Schaw, Ingram, Batcher & Co., Sac.	1 00
Best freestone pitter .....	Schaw, Ingram, Batcher & Co., Sac.	5 00
Best pruning knives .....	Schaw, Ingram, Batcher & Co., Sac.	2 50
Best washing machine .....	J. Holler, Sacramento .....	5 00
CLASS VI—PLOWS.		
Best gang plow .....	Benicia Agricultural Wks., Benicia	15 00
Best sulky plow .....	Benicia Agricultural Wks., Benicia	5 00
Best sod plow .....	Benicia Agricultural Wks., Benicia	5 00
Best subsoil plow .....	Benicia Agricultural Wks., Benicia	5 00
Best open ditching plow .....	Baker & Hamilton, Sacramento...	5 00
Best stubble plow .....	Stanton, Thomson & Co., Sac'to...	5 00
Best steel plow .....	Stanton, Thomson & Co., Sac'to...	5 00
Best sidehill plow .....	Stanton, Thomson & Co., Sac'to...	5 00
Best vineyard plow .....	Stanton, Thomson & Co., Sac'to...	5 00
Best one-horse plow .....	Schaw, Ingram, Batcher & Co., Sac.	5 00
Best chilled plow .....	Schaw, Ingram, Batcher & Co., Sac.	5 00
CLASS VII—VEHICLES.		
Best closed family carriage .....	A. Meister & Son, Sacramento .....	Dip. & \$20
Best open family carriage .....	A. Meister & Son, Sacramento .....	Dip. & \$20
Best top buggy .....	A. Meister & Son, Sacramento .....	Dip. & \$10
Best open buggy .....	Schaw, Ingram, Batcher & Co., Sac.	\$10 00
Best two-seated open wagon .....	Benicia Agricultural Wks., Benicia	10 00
Best single seat trotting wagon .....	Schaw, Ingram, Batcher & Co., Sac.	10 00
Best farm wagon for general purposes .....	Baker & Hamilton, Sacramento...	15 00
Best spring market wagon .....	Benicia Agricultural Wks., Benicia	10 00
Best pleasure cart .....	J. F. Hill, Sacramento .....	10 00
Best breaking cart, long shafts .....	J. F. Hill, Sacramento .....	10 00
Best training cart .....	J. F. Hill, Sacramento .....	10 00
Best ladies' phaeton .....	A. Meister & Son, Sacramento .....	10 00
Best business wagon .....	J. F. Hill, Sacramento .....	10 00
Best carriage springs .....	A. Meister & Son, Sacramento .....	Diploma.
Best carriage wheels and hubs .....	A. Meister & Son, Sacramento .....	Diploma.
CLASS VIII—MISCELLANEOUS.		
Best chimney and ventilator cap .....	Stober Bros., Sacramento .....	Diploma.
Best fruit car .....	E. Ireland, Winters .....	Diploma.
Best horse-shoeing machine .....	Cunningham & Harter, Sac'to...	Diploma.
Best perforator and grader .....	H. M. Barngrover, San José .....	Diploma.
Best wire stock fence .....	Page Woven Wire Fence Co., Tulare	Diploma.
Best victoria .....	A. Meister & Son, Sacramento .....	Sil. Med.
Best undertaker's coupé .....	A. Meister & Son, Sacramento .....	Diploma
Best sprinkling wagon .....	A. Meister & Son, Sacramento .....	Diploma.
Best short-turning orchard truck .....	J. F. Hill, Sacramento .....	\$1 00
Best fruit wagon .....	J. F. Hill, Sacramento .....	Sil. Med.
Best child's adjustable seat .....	J. F. Hill, Sacramento .....	\$1 00
Best beer wagon .....	Kestler & Son, Sacramento .....	Diploma.
Best hand garden plow and cultivator .....	J. I. Felter, Sacramento .....	Diploma.
Best germ-proof water filter (Pasteur) .....	Egan Bros., Sacramento .....	Diploma.

## THIRD DEPARTMENT.

## TEXTILE FABRICS AND MATERIALS FROM WHICH THEY ARE MADE.

Exhibit.	Exhibitor.	Award.
CLASS I—CLOTHING AND KINDRED TEXTURES.		
Best display of silk hosiery, American silk	Wasserman, Davis & Co., Sac'to	Sil. Med.
Best collection of furs	Wasserman, Davis & Co., Sac'to	\$5 00
Best display of dry goods	Wasserman, Davis & Co., Sac'to	10 00
Best display of fancy goods	Wasserman, Davis & Co., Sac'to	10 00
Best ten pounds of dressed ramie	W. H. Murray, San Francisco	5 00
Best ten yards of ramie cloth	W. H. Murray, San Francisco	5 00
Best exhibit of ladies' shoulder braces and corsets, "The R. & G."	Wasserman, Davis & Co., Sac'to	Sil. Med.
Best display of cotton duck and toweling	Cal. Cotton Mills, San Francisco	\$7 50
Best display of towels and tablecloths	Cal. Cotton Mills, San Francisco	5 00
Best ten pounds of dressed flax	Cal. Cotton Mills, San Francisco	3 00
Best ten yards of cloth, of flax or cotton	Cal. Cotton Mills, San Francisco	3 00
Best stocking yarn	Cal. Cotton Mills, San Francisco	3 00
Best exhibit of neckties and bows	F. Mason, Sacramento	Sil. Med.
Best exhibit of men's clothing	The L. Elkus Co., Sacramento	Sil. Med.
Best exhibit of boys' clothing	The L. Elkus Co., Sacramento	Diploma.
Best exhibit of men's hats and caps	The L. Elkus Co., Sacramento	Sil. Med.
Best exhibit of gentlemen's shirts	The L. Elkus Co., Sacramento	Sil. Med.
Best display of woolen goods by one fe'try	The L. Elkus Co., Sacramento	\$25 00
Best Mackinac blanket	The L. Elkus Co., Sacramento	Diploma.
Best set of samples of California wools	Thos. Denigan & Son, San Fran.	Sil. Med.
Best exhibit of carpets and rugs	Mrs. C. A. Loring, Sacramento	\$10 00
Best ten yards of rag carpet	Mrs. F. Thompson, Sacramento	3 00
Best Turkish rug	John Breuner, Sacramento	5 00
Best exhibit of window curtains, cornices, and trimmings	John Breuner, Sacramento	Sil. Med.
Best silk hat	D. H. Quinn, Sacramento	Diploma.
Best soft hat	D. H. Quinn, Sacramento	Diploma.
CLASS II—NEEDLE, SHELL, AND WAX WORK.		
Best embroidered table cover, four ends	Mrs. R. E. Chappie, Sacramento	\$3 00
Best embroidered table scarf, two ends	Mrs. R. E. Chappie, Sacramento	3 00
Best embroidered chair seat and back	Mrs. R. E. Chappie, Sacramento	3 00
Best embroidered tray cloth	Mrs. R. E. Chappie, Sacramento	3 00
Best crocheted shawl	Mrs. R. E. Chappie, Sacramento	3 00
Best crocheted cape	Mrs. R. E. Chappie, Sacramento	2 00
Best lounge afghan	Mrs. R. E. Chappie, Sacramento	3 00
Best embroidered handkerchief case	Mrs. R. E. Chappie, Sacramento	3 00
Best embroidered necktie case	Mrs. R. E. Chappie, Sacramento	3 00
Best painted table cover, four ends	Mrs. R. E. Chappie, Sacramento	3 00
Best painted table scarf, two ends	Mrs. R. E. Chappie, Sacramento	2 00
Best raised silk work	Mrs. R. E. Chappie, Sacramento	3 00
Best painting on ivory	Mrs. R. E. Chappie, Sacramento	5 00
Best chenille embroidery	Mrs. R. E. Chappie, Sacramento	3 00
Best embroidered lady's dress	Mrs. R. E. Chappie, Sacramento	3 00
Best knit bedspread	Mrs. R. E. Chappie, Sacramento	3 00
Best Queen Anne embroidery	Mrs. R. E. Chappie, Sacramento	3 00
Best combination of tinting and emb'dy.	Mrs. R. E. Chappie, Sacramento	3 00
Best embroidered ottoman cover	Mrs. W. F. Bryant, San Francisco	3 00
Best embroidered fire screen	Mrs. W. F. Bryant, San Francisco	3 00
Best embroidered tea cloth	Mrs. W. F. Bryant, San Francisco	3 00
Best embroidered sideboard cover	Mrs. W. F. Bryant, San Francisco	3 00
Best alliance embroidery	Mrs. W. F. Bryant, San Francisco	3 00
Best renaissance embroidery in rope silk	Mrs. W. F. Bryant, San Francisco	3 00
Best embroidered table runner	Mrs. W. F. Bryant, San Francisco	3 00
Largest and finest display of Turkish embroidery	Mrs. W. F. Bryant, San Francisco	3 00
Best embroidered piano drape on India silk	Mrs. W. F. Bryant, San Francisco	3 00
Largest and finest display of outline embroidery	Mrs. W. F. Bryant, San Francisco	2 00
Best French embroidery	Mrs. W. F. Bryant, San Francisco	3 00
Best display of Kensington embroidery, with floss on satin	Mrs. W. F. Bryant, San Francisco	5 00
Best embroidered toilet set, three pieces	Mrs. W. F. Bryant, San Francisco	3 00





A GLIMPSE OF THE MAIN HALL IN AGRICULTURAL PAVILION, SHOWING GENERAL APPEARANCE, STATE FAIR OF 1895.  
(The main aisle is 20x400 feet.)





## THIRD DEPARTMENT—TEXTILE FABRICS—Continued.

Exhibit.	Exhibitor.	Award.
Best embroidery .....	Mrs. W. F. Bryant, San Francisco.	\$3 00
Best embroidered bedspread .....	Mrs. W. F. Bryant, San Francisco.	3 00
Best applique work .....	Mrs. W. F. Bryant, San Francisco.	2 00
Best child's afghan .....	Mrs. W. F. Bryant, San Francisco.	2 00
Best embroidered glove case .....	Mrs. W. F. Bryant, San Francisco.	3 00
Best toilet set embroidered in silk, three pieces .....	Mrs. W. F. Bryant, San Francisco.	5 00
Best embroidery on bolting cloth .....	Mrs. W. F. Bryant, San Francisco.	3 00
Best, largest, and handsomest display of articles made by exhibitor .....	Mrs. W. F. Bryant, San Francisco.	20 00
Largest and finest display of silk embroidery on linen .....	Mrs. W. F. Bryant, San Francisco.	5 00
Best kensington embroidery .....	Mrs. W. F. Bryant, San Francisco.	3 00
Best embroidered piano scarf, two ends .....	Mrs. W. F. Bryant, San Francisco.	3 00
Best embroidered center piece and doylies .....	Mrs. J. A. Green, Sacramento	3 00
Best honiton lace work .....	Mrs. J. A. Green, Sacramento	3 00
Best embroidered point lace handkerchief .....	Mrs. J. A. Green, Sacramento	2 00
Best hand-sewing, not less than three pieces .....	Mrs. W. E. J. Baughman, Sac'to	2 00
Best display of Spanish drawn work .....	Mrs. W. E. J. Baughman, Sac'to	3 00
Best bead work, by hand .....	Mrs. S. Hastings, Sacramento	1 00
Best and finest display of lace, made by hand .....	Mrs. S. Hastings, Sacramento	10 00
Best carriage afghan .....	Mrs. S. Hastings, Sacramento	3 00
Best raised wool work .....	Mrs. S. Hastings, Sacramento	2 00
Best pair of knit wool stockings .....	Mrs. S. Hastings, Sacramento	3 00
Best knit mittens .....	Mrs. S. Hastings, Sacramento	2 00
Best crocheted necktie .....	Mrs. S. Hastings, Sacramento	1 00
Best crocheted purse .....	Mrs. S. Hastings, Sacramento	2 00
Best Danish drawn work .....	Mrs. Lizzie Rhoads, Sacramento	3 00
Best crazy patchwork quilt .....	Mrs. M. A. Wallis, Sacramento	3 00
Best crocheted bedspread .....	Mrs. M. Doscher, Sacramento	3 00
Best silk quilt .....	Mrs. Thos. McConnell, Elk Grove	3 00
Best painted toilet set, five pieces .....	Mrs. A. C. Herrick, Sacramento	10 00
Best painted wall banner .....	Mrs. A. C. Herrick, Sacramento	3 00
Best painted panel .....	Mrs. A. C. Herrick, Sacramento	3 00
Best display of decorative painting on velvet, glass, or birch bark .....	Mrs. A. C. Herrick, Sacramento	5 00
Best display of decorative painting on wood .....	Mrs. A. C. Herrick, Sacramento	5 00
Best display of decorative painting on bolting cloth .....	Mrs. A. C. Herrick, Sacramento	5 00
Best variety porcelain painting .....	Miss Edith Hughson, Sacramento	45 00
Best wood carving .....	E. G. Kress, Columbia	3 00
Best display of millinery .....	Mrs. F. Sullivan, Sacramento	2 00
Best velvet bonnet .....	Mrs. F. Sullivan, Sacramento	5 00
Best hat .....	Mrs. F. Sullivan, Sacramento	5 00
Best silk bonnet .....	Mrs. F. Sullivan, Sacramento	5 00
Best embroidery on flannel .....	Mrs. C. A. Patrick, Sacramento	3 00
Best display of children's clothing .....	Mrs. C. A. Patrick, Sacramento	7 50
Best embroidered children's clothes .....	Mrs. C. A. Patrick, Sacramento	3 00
Best display of ladies' underwear .....	Mrs. C. A. Patrick, Sacramento	10 00
JUVENILE DEPARTMENT.		
Best and most tastily made calico dress, by a miss under eighteen years of age .....	Bertha Hastings, Sacramento	5 00
Best crochet work .....	Bertha Hastings, Sacramento	Nap. ring.
Best silk embroidery .....	Bertha Hastings, Sacramento	B. knife.
Best netting .....	Bertha Hastings, Sacramento	Nap. ring.
Best worsted embroidery .....	Bertha Hastings, Sacramento	B. knife.
Best hand-sewing, four pieces .....	Gypsum Thackham, Sacramento	Sil. Med.
Best cotton embroidery .....	Gypsum Thackham, Sacramento	B. knife.
Best silk quilt .....	Eva Astbury, Sacramento	\$5 00
CLASS III—PRINTING, LITHOGRAPHING, ETC.		
Best display of books and publications .....	Donald Ross, Sacramento	Sil. Med.
Best printing ink .....	Mutual Manufacturing Co., S. F.	Sil. Med.
Best specimen of lithographic printing .....	Miss M. McKenzie, San Francisco	Sil. Med.

## THIRD DEPARTMENT—TEXTILE FABRICS—Continued.

Exhibit.	Exhibitor.	Award.
CLASS IV—MISCELLANEOUS.		
For point lace center-piece and doylies.....	Mrs. J. A. Green, Sacramento .....	\$1 00
For display of kindergarten work.....	Bessie Ressigue, Sacramento .....	Diploma.
For shell work.....	Mrs. J. A. Green, Sacramento .....	\$1 00
For book of poems (original).....	Miss Charlotte Pau, Sacramento .....	Sil. Med.
For laundried work.....	M. F. Mason, Sacramento .....	Diploma.
For California overalls .....	The L. Elkus Co., Sacramento .....	Diploma.
For painted tapestry screen in dyes.....	Mrs. A. C. Herrick, Sacramento .....	\$1 00
For cross-stitch pillow .....	Mrs. S. Hastings, Sacramento .....	1 00
For Patriarchs Militant colors, I. O. O. F.....	Mrs. R. E. Chappie, Sacramento.....	1 00
For display of netting.....	Mrs. R. E. Chappie, Sacramento .....	1 00
For oil painting on terra cotta .....	Mrs. J. E. Huber, Sacramento .....	Sil. Med.

## FOURTH DEPARTMENT.

## MECHANICAL PRODUCTS.

Exhibit.	Exhibitor.	Award.
CLASS I—MANUFACTURES OF LEATHER, PAPER, AND RUBBER.		
Best set double harness.....	J. D. Lord, Sacramento .....	S. M. & \$5
Best display of Mexican saddles .....	J. D. Lord, Sacramento .....	\$5 00
Best display of leather .....	J. D. Lord, Sacramento .....	2 00
Best display of saddles and bridles.....	J. D. Lord, Sacramento .....	2 00
Best display of saddle trees .....	J. D. Lord, Sacramento .....	1 00
Best display of trunks, valises, bags, etc.....	The L. Elkus Co., Sacramento .....	S. M. & \$5
Best display of leather gloves and mittens.....	The L. Elkus Co., Sacramento .....	Sil. Med.
Best clothing, home manufacture.....	The L. Elkus Co., Sacramento .....	Sp. S. M.
Best pair heavy boots.....	Kimball & Upson, Sacramento .....	\$5 00
Best display of Angora goat rugs.....	C. P. Bailey, San José .....	5 00
Best display of rubber hose and belting.....	Schaw, Ingram, Batcher & Co., Sac.....	2 00
Best display of cordage .....	Schaw, Ingram, Batcher & Co., Sac.....	2 00
Best set single harness.....	Sayre & Son, Sacramento .....	10 00
CLASS II—WORKED METALS.		
Best burglar and fire-proof safe, "The Herman".....	Herman Safe Co., Sacramento.....	Sil. Med.
Best display of gas chandeliers and burners.....	Capital Gas Co., Sacramento .....	\$5 00
Best display of metal ornaments for outside work on buildings.....	H. K. Wallace, Sacramento .....	5 00
Best display of copper cooking utensils.....	H. K. Wallace, Sacramento .....	5 00
Best display of tinware .....	H. K. Wallace, Sacramento .....	2 00
Best display of plumbers' goods and wares.....	H. K. Wallace, Sacramento .....	Sil. Med.
Best display of kitchen utensils of copper.....	H. K. Wallace, Sacramento .....	\$1 00
Best display of plated ware .....	H. K. Wallace, Sacramento .....	10 00
Best display of kitchen utensils of tin.....	H. K. Wallace, Sacramento .....	5 00
Best milk cans .....	H. K. Wallace, Sacramento .....	1 00
Best iron fencing, including post.....	Standard Iron and Wire Co., S. F.....	Sil. Med.
Best barbed wire fencing.....	Standard Iron and Wire Co., S. F.....	S. M. & \$5
Best display of wire goods .....	Standard Iron and Wire Co., S. F.....	Dip. & \$5
Best display of saddler's hardware .....	J. D. Lord, Sacramento .....	\$5 00
Best display of pocket cutlery .....	Kimball & Upson, Sacramento .....	5 00
Best exhibit of shot .....	Kimball & Upson, Sacramento .....	1 00
Best display of brass goods .....	Schaw, Ingram, Batcher & Co., Sac.....	10 00
Best display of modern building hardware.....	Schaw, Ingram, Batcher & Co., Sac.....	20 00
Best display of blacksmithing tools .....	Schaw, Ingram, Batcher & Co., Sac.....	11 00
Best display of general hardware .....	Schaw, Ingram, Batcher & Co., Sac.....	20 00
Best axles, California manufacture.....	Schaw, Ingram, Batcher & Co., Sac.....	2 00
Best display of mechanic's tools .....	Schaw, Ingram, Batcher & Co., Sac.....	20 00
Best horseshoes, machine made.....	Schaw, Ingram, Batcher & Co., Sac.....	2 00
Best display of wire rope.....	Schaw, Ingram, Batcher & Co., Sac.....	2 00
Best circular saws.....	Schaw, Ingram, Batcher & Co., Sac.....	5 00

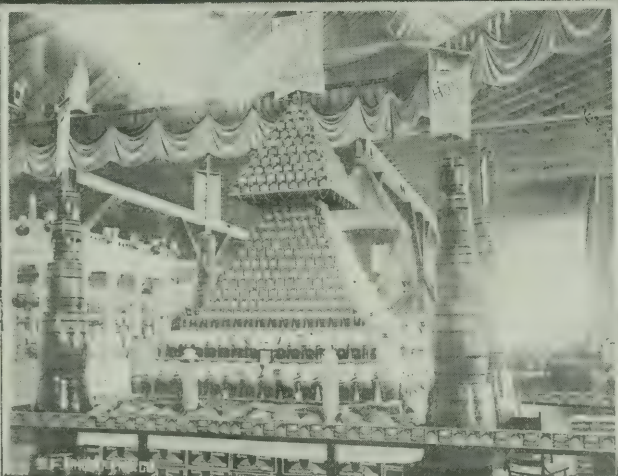
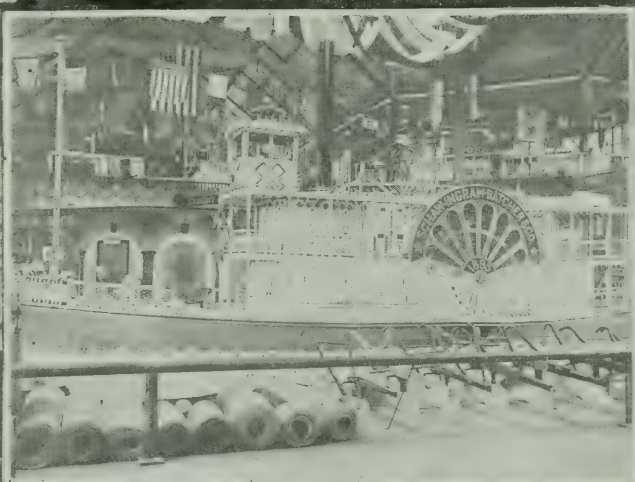


## FOURTH DEPARTMENT—MECHANICAL PRODUCTS—Continued.

Exhibit.	Exhibitor.	Award.
Best mill saws .....	Schaw, Ingram, Batcher & Co., Sac.	\$5 00
Best display of files .....	Schaw, Ingram, Batcher & Co., Sac.	3 00
Best exhibit of anti-friction metal .....	Schaw, Ingram, Batcher & Co., Sac.	1 00
Best display of lamps .....	Crystal Palace, Sacramento	1 00
Best display of table cutlery .....	Schaw, Ingram, Batcher & Co., Sac.	2 00
CLASS III—STOVES, CASTINGS, ETC.		
Best oil cook stove .....	E. K. Alsip, Sacramento	5 00
Best gas and water pipes .....	Sacramento Pipe Works, Sac.	Diploma.
Best gas stove .....	Capital Gas Co., Sacramento	\$5 00
Best portable range, for wood .....	Steiger & Kerr, San Francisco	S.M. & 250
Best cooking stove, for wood .....	H. K. Wallace, Sacramento	\$5 00
Best cooking stove, for coal .....	H. K. Wallace, Sacramento	5 00
Best parlor stove, for wood .....	H. K. Wallace, Sacramento	5 00
Best parlor stove, for coal .....	H. K. Wallace, Sacramento	5 00
Best laundry stove .....	H. K. Wallace, Sacramento	5 00
Best warming furnace .....	H. K. Wallace, Sacramento	5 00
Best display of hollow ware .....	H. K. Wallace, Sacramento	5 00
Best farmer's caldron or steamer .....	H. K. Wallace, Sacramento	5 00
Best cast-iron enameled bath tub .....	H. K. Wallace, Sacramento	5 00
Best ornamental fruit and flower stand .....	Standard Iron & Wire Works, S. F.	5 00
Best ornamental statuary .....	Crystal Palace, Sacramento	5 00
Best parlor grate .....	Crystal Palace, Sacramento	3 00
Best assortment of Japanese ware .....	Crystal Palace, Sacramento	10 00
Best water and steam gates .....	Schaw, Ingram, Batcher & Co., Sac.	1 00
Best asphaltum pipes .....	Schaw, Ingram, Batcher & Co., Sac.	1 00
CLASS V—FURNITURE.		
Best display of California woods (German castle) .....	E. G. Krees, Columbia	Sil. Med.
Best set of school furniture .....	Capital Furniture Co., Sac to	\$5 00
Best display of willow furniture .....	Capital Furniture Co., Sac to	5 00
Best display of furniture .....	John Breuner, Sacramento	Dip. & \$10
Best set of parlor furniture .....	John Breuner, Sacramento	\$10 00
Best set of bedroom furniture .....	John Breuner, Sacramento	5 00
Best set of dining-room furniture .....	John Breuner, Sacramento	5 00
Best set of library furniture .....	John Breuner, Sacramento	5 00
Best folding bed .....	John Breuner, Sacramento	Dip. & \$5
Best sofa .....	John Breuner, Sacramento	\$5 00
Best lounge .....	John Breuner, Sacramento	5 00
Best extension table .....	John Breuner, Sacramento	5 00
Best set of parlor chairs .....	John Breuner, Sacramento	5 00
Best dressing bureau .....	John Breuner, Sacramento	5 00
Best center table .....	John Breuner, Sacramento	5 00
Best pair of side tables .....	John Breuner, Sacramento	5 00
Best display of upholstery .....	John Breuner, Sacramento	5 00
Best spring mattress .....	John Breuner, Sacramento	5 00
Best wool mattress .....	John Breuner, Sacramento	3 00
Best wooden mantel .....	Crystal Palace, Sacramento	5 00
CLASS VI—WOODENWARE.		
Best assortment of cooper's ware .....	J. Oschner, Sacramento	5 00
Best display of turning lathe work .....	Miss E. McKenzie, San Francisco	5 00
Best display of woodenware .....	Kimball & Upson, Sacramento	10 00
Best display of pineware .....	Siskiyow Lumber & Milling Co., A. S. Hopkins Co., Agents, Sac.	5 00
Best display of splitwood baskets .....	Siskiyow Lumber & Milling Co., A. S. Hopkins Co., Agents, Sac.	3 00
Best display of scroll sawing .....	Will X. Clark, Sacramento	5 00
CLASS VII—ELECTRICAL APPLIANCES, ETC.		
Best primary battery .....	Fogalsang & Raplee, Sacramento	Diploma.
Best truss .....	C. B. Rostel, San Francisco	Sil. Med.
Best fire-alarm telegraph .....	Gamewell Tel. & Fire Alarm Co., S.F.	\$5 00
Best automatic fire alarm .....	Gamewell Tel. & Fire Alarm Co., S.F.	5 00
Best annunciator .....	Gamewell Tel. & Fire Alarm Co., S.F.	5 00
Best burglar alarm .....	Gamewell Tel. & Fire Alarm Co., S.F.	5 00

## FOURTH DEPARTMENT—MECHANICAL PRODUCTS—Continued.

Exhibit.	Exhibitor.	Award.
CLASS VIII—CHEMICALS.		
Best bleaching soap .....	Capital Soap Co., Sacramento .....	Diploma.
Best display of soap .....	Capital Soap Co., Sacramento .....	S.M. & \$15
Best display of saleratus and cream tartar .....	Lievre, Fricke & Co., San Francisco .....	\$5 00
Best yeast powder .....	Lievre, Fricke & Co., San Francisco .....	Diploma.
Best toilet soap .....	Sadie Evans, San Francisco .....	Diploma.
Best disinfectants and antiseptics .....	Pacific Coast Borax Co., San Fran. .....	Sil. Med.
Best castile soap .....	New England Soap Co., San Fran. .....	Diploma.
CLASS IX—STONEWARE, BRICKS, TILES, CROCKERY, GLASS, ETC.		
Best display of salt .....	E. P. Figg, Sacramento .....	Diploma.
Best water pipe .....	Cowell & Co., Sacramento .....	\$1 00
Best sewer pipe .....	Cowell & Co., Sacramento .....	5 00
Best display of terra cotta .....	Cowell & Co., Sacramento .....	5 00
Best fire bricks .....	Cowell & Co., Sacramento .....	3 00
Best pressed bricks .....	Cowell & Co., Sacramento .....	1 00
Best barrel of lime .....	Cowell & Co., Sacramento .....	1 00
Best hydraulic cement .....	Cowell & Co., Sacramento .....	1 00
Best plaster .....	Cowell & Co., Sacramento .....	1 00
Best exhibit of slate .....	H. K. Wallace, Sacramento .....	6 00
Best flooring tile .....	Crystal Palace, Sacramento .....	5 00
Best display of table and bar glassware .....	Crystal Palace, Sacramento .....	6 00
Best display of queensware .....	Crystal Palace, Sacramento .....	5 00
CLASS X—MINERALS, FOSSILS, BIRDS, FISHES, ETC.		
For Pacific Coast cured codfish .....	Union Fish Co., San Francisco .....	Sil. Med.
CLASS XI—MARBLE AND GRANITE WORK.		
Best display of marble lavatories .....	H. K. Wallace, Sacramento .....	\$2 00
CLASS XII—INCUBATORS.		
Best display in operation .....	W. H. Young, Stockton .....	12 50
For hatching greatest number of chicks during Fair .....	W. H. Young, Stockton .....	5 00
Best display of brooders .....	W. H. Young, Stockton .....	5 00
Best display of poultry fixtures .....	W. H. Young, Stockton .....	5 00
CLASS XIII—MISCELLANEOUS.		
Best borax soap .....	Capital Soap Co., Sacramento .....	Sil. Med.
Best sand soap .....	Capital Soap Co., Sacramento .....	Diploma.
For police signal system .....	Gamewell Tel. & Fire Alarm Co., S.F. .....	Diploma.
Best egg tray and turner .....	W. H. Young, Stockton .....	Diploma.
For crystallized borax and compound .....	Pacific Coast Borax Co., S. F. .....	Diploma.
For pure codfish blocks, "Seabrights" .....	Union Fish Co., San Francisco .....	Diploma.
For mother's silent nurse .....	Mrs. M. A. Wallace, Sacramento .....	Diploma.
Best wrought steel range .....	H. K. Wallace, Sacramento .....	Diploma.
For centaur collar pad .....	J. D. Lord, Sacramento .....	Diploma.
For Gorham's pneumatic bicycle cushion .....	Kimball & Upson, Sacramento .....	Diploma.
For face steamer .....	J. J. Fader, San Francisco .....	Diploma.
For Peerless nozzle .....	J. C. Ollard & Bro., Tacoma, Wash. .....	Diploma.
Best relief bed .....	Souney Bros., Sacramento .....	Diploma.
For Welsbach burners .....	Capital Gas Co., Sacramento .....	Sil. Med.
Best incandescent lighting .....	Capital Gas Co., Sacramento .....	Diploma.
For improvements as applied to cooking and parlor stoves .....	H. K. Wallace, Sacramento .....	Sil. Med.



SOME ORIGINAL DESIGNS AS SEEN AMONG THE EXHIBITS AT THE STATE FAIR OF 1895.





## FIFTH DEPARTMENT.

## HORTICULTURAL PRODUCTS—COUNTY EXHIBITS.

Exhibit.	Exhibitor.	Award.
COUNTY EXHIBITS AND SPECIAL PREMIUMS.		
For best arranged and most extensive, perfect, and varied exhibit of orchard and farm products by county .....	Sacramento County .....	\$250 00
Best arranged and artistic exhibit of fresh deciduous fruits, by grower .....	Robert Williamson, Sacramento ..	50 00
Best arranged and artistic exhibit of citrus fruit, by grower .....	Robert Williamson, Sacramento ..	50 00
For most meritorious exhibit in this department (exclusive of county exhibits) ..	Mrs. M. E. Williamson, Sacramento ..	35 00
For most meritorious exhibit of green and dried fruits .....	Mrs. S. E. Moore, Freeport .....	15 00
CLASS I—DECIDUOUS FRUITS.		
<i>Apples.</i>		
Best display, embracing quality and variety ..	Robert Williamson, Sacramento ..	27 00
Best arranged exhibit .....	Robert Williamson, Sacramento ..	10 00
Best twelve varieties .....	Robert Williamson, Sacramento ..	5 00
Best five varieties .....	Robert Williamson, Sacramento ..	3 00
Best packed box for shipment .....	Mrs. E. Shields, Sacramento .....	3 00
Best exhibit of varieties not before exhibited .....	Mrs. Mary S. Kerr, Elk Grove .....	3 00
<i>Pears.</i>		
Best display, embracing quality and variety ..	Robert Williamson, Sacramento ..	27 00
Second best .....	D. A. Jackson, Woodland .....	15 00
Third best .....	Mrs. E. Shields, Sacramento .....	10 00
Best arranged exhibit .....	Robert Williamson, Sacramento ..	10 00
Best twelve varieties .....	Robert Williamson, Sacramento ..	5 00
Best five varieties .....	Robert Williamson, Sacramento ..	3 00
<i>Peaches.</i>		
Best display, embracing quality and variety ..	Robert Williamson, Sacramento ..	27 00
Second best .....	Mrs. E. Shields, Sacramento .....	15 00
Best twelve varieties .....	Robert Williamson, Sacramento ..	5 00
Best five varieties .....	Mrs. E. Shields, Sacramento .....	3 00
Best packed box for shipment .....	Mrs. E. Shields, Sacramento .....	3 00
Best exhibit of varieties not before exhibited .....	E. B. Beecher, Auburn .....	3 00
<i>Nectarines.</i>		
Best display, embracing quality and variety ..	Robert Williamson, Sacramento ..	27 00
Second best .....	D. A. Jackson, Woodland .....	15 00
Best arranged exhibit .....	Robert Williamson, Sacramento ..	10 00
Best five varieties .....	Robert Williamson, Sacramento ..	3 00
<i>Plums—Prunes.</i>		
Best display, embracing quality and variety ..	Robert Williamson, Sacramento ..	27 00
Second best .....	Mrs. E. Shields, Sacramento .....	15 00
Best arranged exhibit .....	Robert Williamson, Sacramento ..	10 00
Best twelve varieties .....	Robert Williamson, Sacramento ..	5 00
Best packed box for shipment .....	Mrs. E. Shields, Sacramento .....	3 00
<i>Figs.</i>		
Best display .....	Robert Williamson, Sacramento ..	10 00
Second best .....	E. B. Beecher, Auburn .....	5 00
Best exhibit by one person .....	Robert Williamson, Sacramento ..	5 00
CLASS III—OLIVES.		
For most meritorious exhibit in this class ..	Robert Williamson, Sacramento ..	2 00
Best exhibit of pickled olives (ripe) .....	Robert Williamson, Sacramento ..	25 00
CLASS IV—VEGETABLE OILS.		
Best exhibit of castor oil .....	Pacific Oil and Lead Works, S. F. ..	5 00
Best exhibit of linseed oil .....	Pacific Oil and Lead Works, S. F. ..	S. M. & 2 50

## FIFTH DEPARTMENT—HORTICULTURAL PRODUCTS—Continued.

Exhibit.	Exhibitor.	Award.
CLASS V—CULTIVATED NUTS.		
For most meritorious exhibit in this class.	E. B. Beecher, Auburn	\$2 00
Best and largest exhibit of almonds.	Robert Williamson, Sacramento	20 00
Second best.	Mrs. E. Shields, Sacramento	10 00
Best five varieties of almonds.	Mrs. E. Shields, Sacramento	5 00
Best exhibit of filberts.	E. B. Beecher, Auburn	5 00
Best exhibit of chestnuts.	Mrs. E. Shields, Sacramento	5 00
Second best.	E. B. Beecher, Auburn	3 00
Best exhibit of peanuts.	Mrs. E. Shields, Sacramento	5 00
CLASS VI—TABLE GRAPES.		
Best display, embracing quality and variety.	D. A. Jackson, Woodland	S.M. & \$20
Second best.	Robert Williamson, Sacramento	\$15 00
Best twelve varieties.	Mrs. Mary S. Kerr, Elk Grove	5 00
Best five varieties.	Robert Williamson, Sacramento	5 00
Second best.	Mrs. J. P. Odbert, Sacramento	3 00
Best three varieties.	Robert Williamson, Sacramento	5 00
CLASS VII—DRIED AND PRESERVED FRUITS.		
Best ten pounds dried apples, by producer.	Mrs. E. Shields, Sacramento	5 00
Best ten pounds dried pears, by producer.	Mrs. E. Shields, Sacramento	5 00
Best ten pounds dried peaches, by producer.	Mrs. E. Shields, Sacramento	5 00
Best ten pounds dried plums, by producer.	Mrs. E. Shields, Sacramento	5 00
Best ten pounds dried prunes, by producer.	Mrs. E. Shields, Sacramento	10 00
Best ten pounds dried apricots, by producer.	Mrs. E. Shields, Sacramento	5 00
Best ten pounds dried nectarines, by producer.	D. A. Jackson, Woodland	5 00
Best general display of dried fruits, by producer.	Mrs. E. Shields, Sacramento	20 00
Second best.	D. A. Jackson, Woodland	10 00
CLASS VIII—RAISINS.		
Best display, embracing quality and variety.	Mrs. Mary S. Kerr, Elk Grove	12 50
Best packed box for shipment.	Mrs. Mary S. Kerr, Elk Grove	5 00
CLASS IX—HONEY, PRESERVES, PICKLES, ETC.		
Best display of jams and jellies.	Mrs. J. P. Odbert, Sacramento	10 00
Best ten pounds comb honey.	H. A. Hill, Sacramento	10 00
Best ten pounds honey, extracted.	H. A. Hill, Sacramento	5 00
Best display of fruit in glass.	Mrs. M. E. Williamson, Sacramento	10 00
Second best.	Mrs. J. P. Odbert, Sacramento	5 00
Best six jars raspberry jelly.	H. A. Hill, Sacramento	3 00
Best six jars currant jelly.	Mrs. E. Shields, Sacramento	3 00
Second best.	H. A. Hill, Sacramento	2 00
Best six jars blackberry jelly.	Mrs. M. E. Williamson, Sacramento	3 00
Second best.	Mrs. E. Shields, Sacramento	2 00
Best six jars strawberry jelly.	Mrs. E. Shields, Sacramento	3 00
Second best.	Mrs. J. P. Odbert, Sacramento	2 00
Best six jars quince jelly.	Mrs. Mary S. Kerr, Elk Grove	3 00
Second best.	H. A. Hill, Sacramento	2 00
Best six jars guava jelly.	H. A. Hill, Sacramento	3 00
Best six jars loquat jelly.	H. A. Hill, Sacramento	3 00
Second best.	Mrs. J. P. Odbert, Sacramento	2 00
Best six jars orange jelly.	Mrs. J. P. Odbert, Sacramento	3 00
Second best.	Mrs. S. E. Moore, Freeport	2 00
Best six jars lemon jelly.	H. A. Hill, Sacramento	3 00
Best six jars blackberry jam.	Mrs. Mary S. Kerr, Elk Grove	3 00
Second best.	Mrs. E. Shields, Sacramento	2 00
Best six jars raspberry jam.	Mrs. J. P. Odbert, Sacramento	3 00
Second best.	H. A. Hill, Sacramento	2 00
Best orange marmalade.	H. A. Hill, Sacramento	3 00
Best display of pickles.	Mrs. J. P. Odbert, Sacramento	3 00
Second best.	Mrs. M. E. Williamson, Sacramento	2 00
Best display of brandied peaches.	Mrs. E. Shields, Sacramento	3 00
Second best.	Mrs. Mary S. Kerr, Elk Grove	2 00
Best display of grape syrup.	H. A. Hill, Sacramento	5 00



## SIXTH DEPARTMENT.

## VITICULTURE, ETC.

Exhibit.	Exhibitor.	Award.
CLASS I—BRANDIES.		
Best grape brandy, three years old and over	B. K. Block & Co., Sacramento	\$20 00
Best grape brandy, two years old	B. K. Block & Co., Sacramento	15 00
CLASS II—DRY WINES.		
Best general display of California wines	B. K. Block & Co., Sacramento	S.M. & \$25
Best white wine, Sauterne type	Wetmore, Bowen & Co., Livermore	\$20 00
Best claret wine	J. L. Beard, Centerville	20 00
Best red wine, Burgundy type	Wetmore, Bowen & Co., Livermore	10 00
CLASS III—SWEET WINES.		
Best California port, two years and over	J. L. Beard, Centerville	20 00
Best California sherry, two years and over	B. K. Block & Co., Sacramento	20 00
Best California angelica, two years and over	B. K. Block & Co., Sacramento	20 00
CLASS IV—CHAMPAGNES.		
Best California champagne	Paul Masson, San José	S.M. & 7 50
CLASS VI—WINE GRAPES.		
Best display of wine grapes	Wetmore, Bowen & Co., Livermore	\$7 50
CLASS IX—BEER.		
Best lager beer	Buffalo Brewing Co., Sacramento	Dip. & \$20
Best export beer	C. Schnerr & Co., Sacramento	Dip. & \$10
CLASS X—MISCELLANEOUS.		
For best soda water, "carbonated"	C. Schnerr & Co., Sacramento	Diploma.
Best whisky, "rye"	B. K. Block & Co., Sacramento	Diploma.
Best Muscat wine	J. L. Beard, Centerville	Sil. Med.
Best Golden Chasselas wine	J. L. Beard, Centerville	Diploma.

## SEVENTH DEPARTMENT.

## AGRICULTURAL PRODUCTS.

Exhibit.	Exhibitor.	Award.
CLASS I—FARM PRODUCTS.		
For the most extensive, perfect, and varied exhibit of farm products grown by one person	Mrs. E. Shields, Sacramento	\$100 00
Second premium	J. W. Barrett, Sacramento	50 00
CLASS II—SILK, COTTON, AND TOBACCO.		
Best display of California cotton	California Cotton Mills, E. Oakland	10 00
CLASS III—FLOUR AND GRAIN.		
Best sample of Australian wheat	Mrs. E. Shields, Sacramento	5 00
Best sample of White Chile wheat	Mrs. E. Shields, Sacramento	5 00
Best sample of White Club wheat	Mrs. E. Shields, Sacramento	5 00
Best sample of Chevalier barley	Mrs. E. Shields, Sacramento	5 00
Best and greatest variety of wheat in ear or head	Mrs. E. Shields, Sacramento	5 00
Best sample of hops	S. Flint, Sacramento	2 00
Best sack of yellow corn	Mrs. E. Shields, Sacramento	3 00
Best exhibit of garden seeds, twenty-five varieties, not over one year old	J. W. Barrett, Sacramento	10 00
Best and largest display of grain in the sheaf—first premium	Mrs. E. Shields, Sacramento	20 00

## SEVENTH DEPARTMENT—AGRICULTURAL PRODUCTS—Continued.

Exhibit.	Exhibitor.	Award.
CLASS IV—VEGETABLES, ROOTS, ETC.		
Best sack red potatoes .....	J. W. Barrett, Sacramento .....	\$3 00
Best sack white potatoes .....	J. W. Barrett, Sacramento .....	3 00
Best sack of any other variety .....	J. W. Barrett, Sacramento .....	3 00
Best and greatest variety of Irish potatoes .....	J. W. Barrett, Sacramento .....	3 00
Best sack of sweet potatoes .....	J. W. Barrett, Sacramento .....	3 00
Best twelve parsnips .....	J. W. Barrett, Sacramento .....	2 00
Best twelve carrots .....	J. W. Barrett, Sacramento .....	2 00
Best six turnip beets .....	J. W. Barrett, Sacramento .....	2 00
Best peck tomatoes .....	Mrs. Mary S. Kerr, Elk Grove .....	2 00
Best six drumhead cabbage .....	J. W. Barrett, Sacramento .....	2 00
Best six red Dutch cabbage .....	J. W. Barrett, Sacramento .....	2 00
Best three cauliflower .....	J. W. Barrett, Sacramento .....	2 00
Best six heads of lettuce .....	J. W. Barrett, Sacramento .....	2 00
Best half peck red onions .....	J. W. Barrett, Sacramento .....	2 00
Best half peck yellow onions .....	J. W. Barrett, Sacramento .....	2 00
Best half peck white onions .....	J. W. Barrett, Sacramento .....	2 00
Best half peck peppers for pickling .....	Mrs. E. Shields, Sacramento .....	2 00
Best twelve roots of salsify .....	J. W. Barrett, Sacramento .....	2 00
Best six stalks of celery .....	J. W. Barrett, Sacramento .....	2 00
Best six marrow squashes .....	J. W. Barrett, Sacramento .....	2 00
Best six Hubbard squashes .....	J. W. Barrett, Sacramento .....	2 00
Best six crookneck squashes .....	Mrs. M. E. Williamson, Sacramento .....	2 00
Best and largest pumpkin .....	Mrs. E. Shields, Sacramento .....	2 00
Best dozen sweet corn .....	Mrs. M. E. Williamson, Sacramento .....	2 00
Best three mountain sweet watermelons .....	Mrs. M. E. Williamson, Sacramento .....	2 00
Best three cantaloupes .....	H. A. Hill, Sacramento .....	2 00
Best three muskmelons .....	H. A. Hill, Sacramento .....	2 00
Best six cucumbers .....	J. W. Barrett, Sacramento .....	2 00
Best half peck lima beans, in pod .....	J. W. Barrett, Sacramento .....	2 00
Best half peck white beans, dried .....	H. A. Hill, Sacramento .....	2 00
Best half peck kidney bush beans, in pod .....	Mrs. M. E. Williamson, Sacramento .....	2 00
Best half peck pole beans, other than lima, in pod .....	J. W. Barrett, Sacramento .....	2 00
Best half peck gherkin cucumbers .....	J. W. Barrett, Sacramento .....	2 00
Best three purple egg plants .....	J. W. Barrett, Sacramento .....	2 00
Best half peck field beans .....	H. A. Hill, Sacramento .....	2 00
CLASS V—FLOWERS.		
For most attractive general exhibit of ornamental nursery stock .....	Bell Conservatory Co., Sac'to .....	50 00
Best and largest collection of flowering plants in bloom .....	Hugh McWilliams, Sacramento .....	15 00
Best collection of ornamental foliage plants .....	Bell Conservatory Co., Sac'to .....	15 00
Best display of cut flowers .....	Hugh McWilliams, Sacramento .....	15 00
Best collection of new and rare flowers .....	Hugh McWilliams, Sacramento .....	15 00
Best collection of coleus, distinct varieties .....	Hugh McWilliams, Sacramento .....	10 00
Best collection of roses in bloom .....	Hugh McWilliams, Sacramento .....	10 00
Best collection of tuberose .....	Hugh McWilliams, Sacramento .....	10 00
Best collection of pinks .....	Hugh McWilliams, Sacramento .....	10 00
Best collection of plants suitable for green- house, conservatory, and window culture .....	Hugh McWilliams, Sacramento .....	10 00
Best collection of fuschias in bloom .....	Bell Conservatory Co., Sac'to .....	10 00
Best collection of ferns .....	Bell Conservatory Co., Sac'to .....	10 00
Best display of bouquets .....	Bell Conservatory Co., Sac'to .....	10 00
Best display of hanging baskets contain- ing plants .....	Bell Conservatory Co., Sac'to .....	10 00
Best display of cut flower designs .....	Hugh McWilliams, Sacramento .....	25 00
Second best .....	Bell Conservatory Co., Sac'to .....	15 00
For most meritorious exhibit .....	Bell Conservatory Co., Sac'to .....	35 00
CLASS VI—CHEESE.		
Best cheese, one year old and over .....	Mrs. E. Shields, Sacramento .....	15 00
Best cheese, under one year .....	Ed Arthur, Sacramento .....	10 00
Best and largest display of cheese .....	Ed Arthur, Sacramento .....	7 50
CLASS VII—CURED MEATS, BUTTER, BREAD, ETC.		
Best display of home-cured hams, bacon, and lard, with formula .....	Mrs. E. Shields, Sacramento .....	10 00
Best firkin butter three months old .....	John Hanlon, Cosumnes .....	5 00

## SEVENTH DEPARTMENT—AGRICULTURAL PRODUCTS—Continued.

Exhibit.	Exhibitor.	Award.
<i>Bread and Cereal Food.</i>		
Best pilot bread .....	H. A. Hill, Sacramento .....	\$2 00
Best crackers, sweet .....	H. A. Hill, Sacramento .....	2 00
Best crackers, Boston .....	H. A. Hill, Sacramento .....	2 00
Best domestic rye bread .....	H. A. Hill, Sacramento .....	2 00
Best domestic brown bread .....	H. A. Hill, Sacramento .....	2 00
Best biscuit .....	Miss E. B. Johnson, Sacramento .....	2 00
Best soda biscuit .....	Mrs. F. P. Lowell, Sacramento .....	2 00
Best crackers, butter .....	Mrs. F. P. Lowell, Sacramento .....	2 00
Best domestic wheat bread .....	Mrs. F. P. Lowell, Sacramento .....	2 00
Best display of domestic bread .....	Mrs. F. P. Lowell, Sacramento .....	10 00
Best domestic corn bread .....	Mrs. Mary S. Kerr, Elk Grove .....	2 00
Best graham bread .....	Mrs. Mary S. Kerr, Elk Grove .....	2 00
CLASS VIII—SUGAR, SYRUP, ETC.		
Best general display of confectionery .....	C. T. Barton, Sacramento .....	5 00
Best general variety of candies .....	C. T. Barton, Sacramento .....	Dip. & \$5
Best exhibit of flavoring extracts .....	Mutual Mfg. Co., San Francisco .....	Sil. Med.
CLASS IX—MISCELLANEOUS.		
Best malted bread .....	Log Cabin Bakery, Oakland .....	Sil. Med.
For display of hops, corn, and watermelons .....	George T. Hennagen, Woodland .....	\$15 00

## EIGHTH DEPARTMENT.

## FINE ARTS.

Exhibit.	Exhibitor.	Award.
CLASS I—OIL PAINTINGS, WATER COLORS, CRAYONS, AND PASTELS.		
Six oil paintings .....	Miss Sarah E. Bender, San Fran. ....	\$8 00
Nine oil paintings .....	Louise M. Carpenter, San Fran. ....	8 00
Two oil paintings .....	Eleanor Warren, San Francisco .....	8 00
Ten oil paintings .....	Isabel Hunter, San Francisco .....	S.M. & \$10
Six oil paintings .....	Marion E. Frolich, San Francisco .....	\$8 00
Four oil paintings .....	William Hubacek, San Francisco .....	10 00
Four oil paintings .....	J. Martinez, San Francisco .....	8 00
Three oils and one water color .....	H. R. Bloomer, San Francisco .....	8 00
Four oils and ten water colors .....	Mary J. Menton, San Francisco .....	10 00
Four oil paintings .....	C. C. Judson, San Francisco .....	8 00
Three oils and seven water colors .....	John M. Gamble, San Francisco .....	S.M. & \$10
Four oil paintings .....	Selina Newman, San Francisco .....	\$5 00
Four oils and one water color .....	Annie Harmon, San Francisco .....	5 00
Three oils and one water color .....	Sidney Armer, San Francisco .....	5 00
Three oil paintings .....	G. Cadenasso, San Francisco .....	10 00
Four oil paintings .....	Miss C. Van Winkle, San Francisco .....	5 00
Three oil paintings .....	Miss Josephine Bailey, San Fran. ....	8 00
Twelve oil paintings .....	J. A. Stanton, San Francisco .....	30 00
Two oil paintings .....	Miss Edith White, San Francisco .....	8 00
One oil painting .....	R. E. Parington, San Francisco .....	5 00
Six oils and eight water colors .....	C. Jorgenson, San Francisco .....	S.M. & \$10
Five oils and two pastels .....	W. A. Reaser, San Francisco .....	S. M., G.M. & \$20
Two oil paintings .....	William Hahn, San Francisco .....	\$10 00
Four oils, nine water colors, and one pastel .....	Alice N. Hartly, San Francisco .....	10 00
Four oil paintings .....	Bertha S. Lee, San Francisco .....	6 00
Four oil paintings .....	Mary H. Rose, San Francisco .....	5 00
Three oils and four water colors .....	Leonora L. Koethe, San Francisco .....	6 00
Six oil paintings .....	R. D. Yelland, San Francisco .....	20 00
Three oil paintings .....	Emila Kalischer, San Francisco .....	6 00
Eight oil paintings .....	Frank L. Heath, San Francisco .....	18 00
Nine oil paintings .....	Addie L. Ballou, San Francisco .....	5 00



## EIGHTH DEPARTMENT—FINE ARTS—Continued.

Exhibit.	Exhibitor.	Award.
Five oil paintings	Mary W. Davison, San Francisco	\$8 00
Five oils and one water color	Mrs. C. W. Farnham, Alameda	5 00
One oil painting	Joseph M. Raphael, San Francisco	5 00
Six oil paintings	C. Burnett, San Francisco	5 00
Three oil paintings	Alice B. Chittenden, San Francisco	10 00
Six oil paintings	Kate H. Maher, San Francisco	8 00
Five oil paintings	Tom Hill, San Francisco	25 00
Seven oil paintings	Henry Raschen, San Francisco	10 00
Four oil paintings	Mrs. D. W. Gelwicks, Oakland	5 00
One oil painting	Eva Withrow, San Francisco	5 00
Three oils and two water colors	L. P. Latimer, San Francisco	20 00
Two oils and three pastels	Calithea Vivian, San Francisco	8 00
Two oil paintings	Annie Nordgren, San Francisco	8 00
One oil painting	Grace Hudson, Ukiah	5 00
Four oils and two pastels	E. Peixotto, San Francisco	10 00
One oil painting	E. Willard, San Francisco	5 00
Four oil paintings	Wm. Keith, San Francisco	S.M.& \$20
One oil painting	Carlos J. Hittell	\$5 00
One oil and one water color	Grace Partington, San Francisco	5 00
Two oils and six water colors	De Male Morgan, San Francisco	8 00
One oil painting	Joseph Harrington, San Francisco	5 00
Six oils and two crayons	Carrie M. Blowers, San Francisco	5 00
Four oil paintings	Thad Welch, San Francisco	10 00
Three oil paintings	W. F. Jackson, Sacramento	10 00
Two oil paintings	Arthur Atkins, San Francisco	5 00
Four oil paintings	Martha Patterson, San Francisco	10 00
Six oil paintings	Miss Mary Hinkson, Sacramento	S.M.& \$10
Eight oils and four water colors	Mrs. J. W. Huber, Sacramento	8 00
Five oil paintings	Mrs. A. C. Herrick, Sacramento	6 00
Seven oil paintings	Mrs. R. E. Chappie, Sacramento	5 00
Eleven oil paintings	Mrs. W. H. Marshall, Sacramento	8 00
Four oil paintings	Mary A. Lewis, Sacramento	5 00
Three oils and one water color	Carrie M. Campbell, San José	5 00
Five oils, one pastel, and eight sets of crayons and drawings	Mrs. C. A. Roundy, Sacramento	5 00
Two oil paintings	Mrs. W. Hahn, San Francisco	5 00
Four oil paintings	Minnie K. Irving, San Francisco	5 00
Two oils and eleven water colors	Miss Amanda Austin, Sac'to	8 00
One oil painting	Lou E. Drinkall, Sacramento	5 00
Two oil paintings	Miss M. Bailey, Reno, Nev.	5 00
Seven oil paintings	Miss M. Logan, Auburn	5 00
Two oils and six water colors	Miss M. S. Leffler, Stockton	8 00
Six water colors	Mrs. L. C. Kelly, San Francisco	8 00
Ten water colors	Otille Lenhardt, San Francisco	10 00
Eleven water colors	Mrs. C. E. Curtis, San Francisco	10 00
Eight water colors	Otto Waldo Emerson, San Fran.	10 00
Twelve water colors	Mrs. A. F. Briggs, San Francisco	10 00
Four water colors	Hugo Fisher, San Francisco	10 00
Two water colors	Charlotte Colby, San Francisco	5 00
One water color	Mrs. J. N. E. Partington, San Fran.	8 00
Five pastels	A. P. Niles, San Francisco	5 00
Ten oil paintings	M. E. Patterson, Sacramento	10 00

## AMATEURS AND STUDENTS' GALLERY.

Five oils and one crayon	Miss H. Rigney, Sacramento	2 50
Four oil paintings	Mrs. J. H. Merritt, Sacramento	S.M.& \$10
Two oils and one water color	Ethel Grant, Sacramento	\$2 50
One oil and one crayon	Susie Clark, Sacramento	2 50

## CLASS II—PHOTOGRAPHS.

Display of photos	B. M. Hodson, San Francisco	10 00
Display of photos	A. O. Gregory, Sacramento	10 00
Display of photos	Julius Asher, Sacramento	5 00
Display of photos	A. K. Varney, Sacramento	Sil. Med.
Display of photos	O. S. Dean, Sacramento	\$5 00
Display of photos	Taber & Co., San Francisco	10 00
Display of photos	Alex. Holmes, Sacramento	10 00

## EIGHTH DEPARTMENT—FINE ARTS—Continued.

Exhibit.	Exhibitor.	Award.
CLASS III—PEN DRAWINGS, SKETCHES, ETC.		
Three pen and ink drawings .....	H. R. Bloomer, San Francisco.....	\$5 00
Two pen and ink drawings .....	R. L. Partington, San Francisco....	Sil. Med.
Eight pen and ink drawings.....	Leonora L. Koethe, San Francisco..	\$7 50
One pen and ink drawing .....	Grace Partington, San Francisco...	5 00
Fourteen pen and ink drawings.....	Amanda Austin, Sacramento .....	10 00
One pen and ink drawing .....	Otto Waldo Emerson, San Fran....	2 50
One pen and ink drawing .....	J. N. E. Partington, San Francisco..	5 00
Three pen and ink drawings .....	C. E. Tebbs, San Francisco .....	5 00
One pen and ink drawing .....	Willis Polk, San Francisco .....	5 00
Six pen and ink drawings .....	Mrs. J. W. Huber, Sacramento .....	2 50
Two pen and two pencil drawings.....	Carrie M. Blower, San Francisco...	2 50
CLASS IV—STATUARY, ETC.		
For four pieces of statuary .....	Rupert Schmidt, San Francisco....	S.M.& \$25
CLASS V—PENMANSHIP.		
Best sample of penmanship .....	D. L. Hunt, Stockton .....	\$5 00
For most meritorious display .....	Sacramento Business College, Sac.	Sil. Med.
CLASS VI—JUVENILE.		
Best oil painting by a minor .....	Luverne Marshall, Sacramento ...	\$5 00
Best drawing by a minor .....	Paul Spiersch, Sacramento .....	5 00
CLASS VII—CALIFORNIA DRAWINGS AND DESIGNS.		
Best display of mechanical freehand penmanship or drawing of any kind or character, by any class in a commercial or business college .....	W. C. Ramsey, Stockton .....	Sil. Med.
Best display of penmanship or drawing of any kind or character, by any class in the public schools .....	Chinese Public School, Sac'to .....	\$10 00
Best plan or design of city residence .....	Lawrence Veban, Sacramento .....	Sil. Med.
Best plan or design of farm house .....	A. W. Campbell, Sacramento .....	Sil. Med.
Best drawings from life .....	Mark Hopkins Institute, S. F. ....	Sil. Med.

## DEPARTMENT GOLD MEDALS.

## FIRST DEPARTMENT.

To Mrs. W. H. Murry, for meritorious exhibit of thoroughbred horses.  
 To C. A. Durfee, for meritorious exhibit of standard bred trotters.  
 To A. Heilbron & Bro., for meritorious exhibit of Durham and Hereford cattle.

## SECOND DEPARTMENT.

To Daniel West, for most meritorious exhibit of pumps.

## THIRD DEPARTMENT.

To Miss Edith Hughson, for meritorious exhibit—porcelain painting.

## FOURTH DEPARTMENT.

To Gamewell Fire Alarm Telegraph Co., for meritorious exhibit—fire alarm and telegraph system.

## FIFTH DEPARTMENT.

To Mrs. M. E. Williamson, for meritorious exhibit of agricultural products.

## SIXTH DEPARTMENT.

To Wetmore, Bowen & Co., for meritorious exhibit of viticulture.

## SEVENTH DEPARTMENT.

To Bell Conservatory Co., for meritorious exhibit of flowers.

## EIGHTH DEPARTMENT.

To W. A. Reaser, for meritorious exhibit in fine arts.

## SPECIAL GOLD MEDAL.

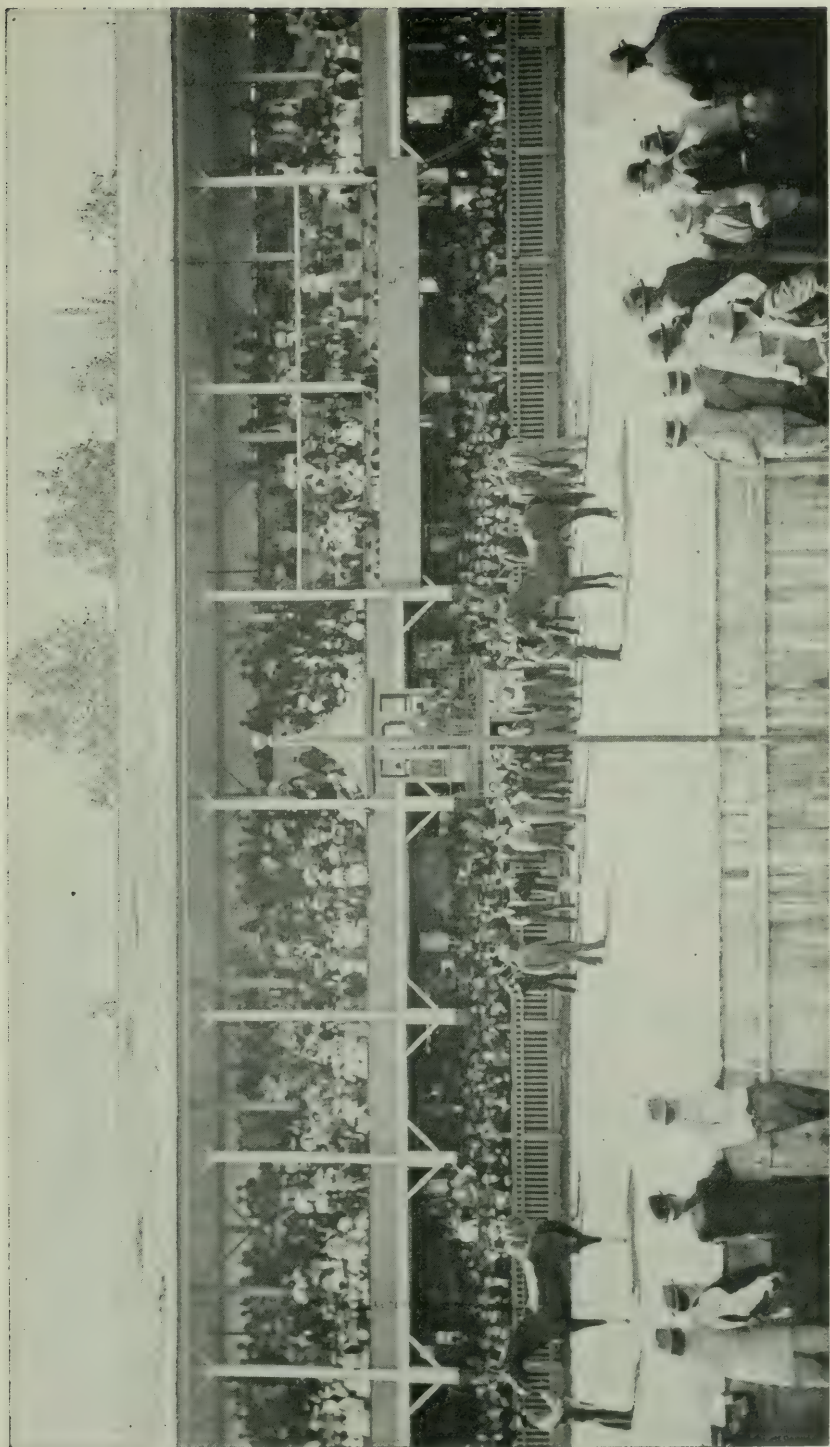
To Schaw, Ingram, Batcher & Co., for most attractive display in Pavilion, "Miniature Steamboat."

## SPECIAL SILVER MEDALS.

To W. G. Read, for best almond sheller.

To The L. Elkus Co., for best clothing--home manufacture.





Salvator.

Tenny.

THE CELEBRATED THOROUGHBRED STALLIONS, SALVATOR AND TENNY, EXHIBITED AT THE STATE FAIR OF 1895.



## SPEED PROGRAMME.

MONDAY, SEPTEMBER 2, 1895.

## RACE No. 1—TROTTING.

The Occident Stake. A trotting stake for foals of 1892. Entries closed January 1, 1893. Entrance \$100, of which \$10 must accompany nomination; \$15 to be paid January 1, 1894; \$25 January 1, 1895, and \$50 thirty days before the race. The Occident Cup of the value of \$400 to be added by the Society. First colt to receive cup and six tenths; second colt three tenths, and third colt one tenth of stake. Five to enter, three to start; otherwise National Trotting Association Rules to govern. Mile heats, three in five, to harness. Closed with sixty nominations. Total value of stake, \$2,400.

Name and Pedigree of Horse.	By Whom Entered.
La Belle, ch. f., by Sidney; dam, Annie Belle, by Dawn	M. S. Severance, Los Angeles.
Iran Alto, b. c., by Palo Alto; dam, Elaine, by Messenger Duroc	Vendome Stock Farm, San José.
Silver Ring, b. f., by Silver Bow; dam, Maud Singleton, by Singleton	Williams & Morehouse, Milpitas.
Our Seth, br. c., by Prince Red; dam, Ada F.	H. T. & A. D. Porter, San Francisco.
Nordica, gr. f., by Advertiser; dam, Sallie Benton, by General Benton.	Palo Alto Stock Farm, Palo Alto.

## SUMMARY.

La Belle (J. Keating)	1	1	1
Iran Alto (C. F. Bunch)	2	2	2
Silver Ring (P. J. Williams)	3	3	3
Our Seth (H. Ward)	5	5	4
Nordica (John Phippen)	4	4	dr.

Time—2:20 $\frac{3}{4}$ ; 2:19 $\frac{1}{4}$ ; 2:20 $\frac{1}{2}$ .

## RACE No. 2—PACING.

2:25 Class. Purse, \$800. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Birdroe, b. m., by Mark Monroe; dam, by Whirlwind Chief	John Baker, Santa Ana.
Ruby M, b. m., by Almont Patchen; dam, by Almont	T. B. Marr, Jr., Colusa.
Dan N, br. g., by Dan B; dam, untraced	W. S. Maben, Los Angeles.
Dictatus, ch. c., by Red Wilkes; dam, Miss Lollie, by Dictator	F. M. Day, Belmont.
Pansy, ch. m., by Prompter; dam, by Blackhawk	Bud Cantrell, Sacramento.
Alco, b. s., by Alconeer; dam, Jessie Elliott, by Whippleton	H. W. Crabb, Oakville.
Babe Marion, b. m., by Steinway; dam, Ida Wood, by Simmons	Oakwood Park Stock Farm, Danville.
Lynette, b. m., by Lynwood; dam, Lady Belle, by Kentucky Hunter	Agnew Stock Farm, Hillsdale.
Prince C, br. s., by St. Nicholas; dam, Nellie, by Conductor	John Curley, Oakland.
Senator, blk. h., by Secretary; dam, Emma Taylor, by Alexander	D. R. Misner, Petaluma.
Trifle, b. m., by Dexter Prince; dam, Topsy	Dan Bell, Stockton.
Welcome, b. h., by Arthur Wilkes; dam, Lettie, by Woland Forest	W. E. Meek, Haywards.
Little Alph, b. g., by Sidney; dam, Anita G, by Fallis	E. T. Breen, Salinas City.



## SUMMARY.

Birdroe (John Baker)	1	1	1
Ruby M (James Sullivan)	4	2	2
Dan N (George Maben)	2	7	6
Dictatus (C. B. Bigelow)	7	3	3
Pansy (O. J. Holmes)	3	4	4
Alco (J. Berryman)	5	8	5
Babe Marion (B. Chaboya)	12	5	7
Lynette (Connolly)	8	10	8
Prince C (H. Brown)	6	6	dr.
Senator (Hellman)	10	9	dis.
Trifle (Dan Bell)	9		dis.
Welcome (George Gray)	11		dis.
Little Alph (Roderiguez)	dis.		

Time—2:14¾; 2:12½; 2:15.

## RACE No. 3—TROTTING.

2:22 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
John Bury, b. g., by Antinous; dam, Muldoon, by Geo. M. Patchen, Jr.	Vendome Stock Farm, San José.
Bijou, br. m., by Fred Arnold; dam, Nellie, by Conway's Patchen	P. W. Murphy, San Luis Obispo.
Stella, blk. f., by Geo. Washington; dam, by McDonald Chief.	Thomas Smith, Vallejo.
Hera, b. m., by Mambrino Wilkes; dam, by Conductor	James Hambleton, Oakland.
Maud H, s. m., by Carr's Mambrino; dam, Flora, by Dan Voorhies.	E. T. Breen, Salinas.

## SUMMARY.

John Bury (C. F. Bunch)	1	1	1
Bijou (H. E. Toll)	2	3	3
Stella (Thomas Smith)	3	5	2
Hera (A. L. Hinds)	4	2	4
Maud H (E. T. Breen)	5	4	5

Time—2:21½; 2:18½; 2:21¼.

TUESDAY, SEPTEMBER 3, 1895.

## RACE No. 4—TROTTING.

Two-year-old stake. 2:40 Class. Closed March 16, 1895, with fourteen nominations; \$50 entrance, of which \$10 must accompany nomination; \$15 payable July 1st, and the remaining \$25 payable August 10, 1895; \$300 added by the Society. Mile heats. Total value of stake, \$280.\*

Name and Pedigree of Horse.	By Whom Entered.
Palita, ch. f., by Palo Alto; dam, Elsie, by General Benton.	Palo Alto Stock Farm, Menlo Park.
Don Roberto, blk. c., by Sidney; dam, Fan, by Signal.	A. C. Severance, Los Angeles.

## SUMMARY.

Palita (John Phippen)	1	1
Don Roberto (George Maben)	2	2

Time—2:21; 2:20¾.

\*Stakes only trotted for.

## RACE No. 5—TROTTING.

2:25 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Ethel Downs, blk. m., by Boodle; dam, by Nutwood	Winship & Keating, San José.
Lady Thornhill, b. m., by Billy Thornhill; dam, Flora	C. H. Corey, San José.
Native State, b. s., by Starr Sultan; dam, by Wet- tington	C. W. Rogers, Los Angeles.
Dr. Puff, b. g., by Bay Bird; dam, Patty Puff, by Sailor Boy	Thomp- son & Mentrum, Missoula, Montana.
Rex Gifford, gr. s., by Atto Rex; dam, by A. W. Richmond	S. C. Tryon, Sacramento.
Letter B, b. m., by Ward B; dam, Brown Irish, by Judge McKinstry	Weathers & Lowery, Hollister.
Mojave, b. g., by Dexter Prince; dam, by Reliance	Charles A. Hug, San Francisco.
Oliver C, b. g., by Dexter Prince; dam, untraced	D. O. Castle, Stockton.

## SUMMARY.

Ethel Downs (T. Keating)	2	1	1	1
Lady Thornhill (J. Sullivan)	1	7	6	3
Native State (George Mabon)	3	2	2	8
Dr. Puff (J. L. Carrigan)	4	3	3	2
Rex Gifford (S. C. Tryon)	6	5	4	5
Letter B (S. E. Kent)	5	6	7	4
Mojave (T. C. Snider)	7	4	5	6
Oliver C (H. G. Carrillo)	8	8	8	7

Time—2:17; 2:16; 2:16¼; 2:17½.

## RACE No. 6—TROTTING.

2:40 Class. Purse, \$800. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Charivari, br. m., by Sterling; dam, by Prompter	C. A. Hug, San Francisco.
Anita, b. m., by Junio; dam, Anita G, by Fallis	E. T. Breen, Salinas.
Fannie C, b. m., by Fallis; dam, by Reno	Hugh Casey, Sacramento.
Coal Dust, blk. g., by Black Pilot; dam, Daughter of Richmond	T. K. Guis, Santa Paula.
Theresa, b. f., by Signal Wilkes; dam, Nellie H, by Signal	F. L. Duncan, Chico.
Dion, b. g., by Dawn; dam, Dinah, by Brigadier	N. D. Rideout, Marysville.

## SUMMARY.

Charivari (T. C. Snider)	1	1	1
Anita (C. Roderiguez)	2	2	3
Fannie C (George Gray)	4	3	2
Coal Dust (James Mack)	3	5	4
Theresa (Duncan)	5	4	5
Dion (F. Grant)	6	dis.	

NOTE.—In the third heat R. J. Havey was substituted for George Gray, and C. A. Durfee for Roderiguez.

Time—2:20¼; 2:20½; 2:22.

WEDNESDAY, SEPTEMBER 4, 1895.

## RACE NO. 7—PACING.

For three-year-olds and under. 2:20 Class. \$100 entrance, of which \$25 must accompany nomination; \$25 payable July 1st, and the remaining \$50 payable August 10, 1895; \$400 added by the Society. Mile heats, three in five. Closed March 16th, with six nominations. Total value of stake, \$850.

Name and Pedigree of Horse.	By Whom Entered.
Roan Wilkes, rn. s., by Raymond; dam, Berlina, by Berlin .....	A. C. Jones, Los Angeles.
Javelin, b. m., by Creole; dam, Flash .....	Oakwood Park Stock Farm, Danville.
Ed. Lafferty, b. c., by Charles Derby; dam, Bertha, by Alcantara .....	T. J. Crowley, San Francisco.
Captain Hackett, b. g., by Steinway; dam, Idle Belle, by Idle Wilkes .....	Ed. Armstrong, Oakland.

## SUMMARY.

Roan Wilkes (J. Sullivan) .....	1	1	1
Javelin (B. Chaboya) .....	4	2	2
Ed. Lafferty (E. J. Lafferty) .....	2	3	3
Captain Hackett (L. J. Smith) .....	3	4	4

Time—2:20½; 2:16; 2:12¾.

## RACE NO. 8—TROTTING.

2:17 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Lady O, b. m., by T O; dam, Babe, by Black Prince .....	O. Marchand, Golden Gate.
Hillsdale, b. h., by Antinous; dam, Nettie Nutwood, by Nutwood .....	C. A. Durfee, Los Angeles.
Nellie W, ch. f., by Woolsey; dam, by Inca .....	Richard Gird, Chino.
Myrtle Thorne, br. m., by Grandissimo; dam, Belle Thorne, by Whippleton .....	Fred W. Loeber, St. Helena.
Bruno, b. s., by Junio; dam, Dolly, by Mozart .....	C. Z. Hebert, Salinas.
George Dexter, br. h., by Dexter Prince; dam, Nellie R .....	River View Stock Farm, Sacramento.
McZeus, br. s., by McKinney; dam, Grace, by Kaiser .....	C. Conant, Los Angeles.
Thompson, ch. s., by Boodle; dam, Flora, by Jim Mulvena .....	B. O. Van Bokkelen, San José.
Margaret Worth, b. m., by Alexander Button; dam, Adelina Patti .....	G. B. Somers, San Francisco.
Stranger, b. s., by Tilton Almont; dam, Jessie, by Whipple's Hambletonian .....	W. W. Marshall, Willows.
Hamrock, b. g., by Ham.; dam, by Rockwood .....	Winship & Keating, San José.

## SUMMARY.

Lady O (O. Marchand) .....	5	1	1	2	2	1
Hillsdale (C. A. Durfee) .....	4	7	3	1	1	2
Nellie W (E. B. Connolly) .....	1	5	6	6	3	3
Myrtle Thorne (F. W. Loeber) .....	3	2	4	3		
Bruno (Jas. Dwin) .....	2	3	5	4		
George Dexter (E. J. Bennett) .....	6	4	2	7		
McZeus (P. W. Hodges) .....	10	6	9	5		
Thompson (B. O. Van Bokkelen) .....	8	10	7	9		
Margaret Worth (C. B. Bigelow) .....	7	8	8	10		
Stranger (J. Sullivan) .....	9	9	10	8		
Hamrock (T. Keating) .....	dr.					

Time—2:15¾; 2:16; 2:16; 2:18; 2:20½; 2:22½.



## RACE No. 9—PACING.

2:15 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Pathmont, br. s., by Altamont; dam, by Pathfinder	Winship & Keating, San José.
Hanford Medium, b. s., by Milton R; dam, by Signal	S. C. Tyron, Sacramento.
Phenol, gr. m., by Judge Waller; dam, Dolly	L. C. Ruble, Rio Vista.
Belle, ch. m., by Melbourne King; dam, Mattie	South Park Stables, San Francisco.
Del Norte, blk. s., by Altamont; dam, Tecora, by Cassius M. Clay, Jr.	C. E. Barrows, Los Angeles.
Edna R, b. m., by Sidney; dam, by Director.	E. M. Steele, Woodland.

## SUMMARY.

Pathmont (T. Keating)	1	1	1
Hanford Medium (S. C. Tryon)	3	4	2
Phenol (E. J. Weldon)	2	6	5
Belle (J. H. Davis)	6	2	6
Del Norte (W. H. Stimson)	4	3	4
Edna R (Frank Trainor)	5	5	3

Time—2:10½; 2:12; 2:12.

THURSDAY, SEPTEMBER 5, 1895.

## RACE No. 10—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Fixed value, \$1,500: One pound off for each \$100 to \$1,000, then two pounds to \$500, then three pounds to \$200. Winners of three races since January 1st to carry five pounds; of five or more, eight pounds extra. Three quarters of a mile.

Name and Pedigree of Horse.	By Whom Entered.
Lady Jane, br. f., by imp. Midlothian; dam, Aunt Jane	George Rose, San Francisco.
Rico, b. g., by Shannon; dam, Fannie Lewis	F. Taylor, San Francisco.
Warrago, b. m., by Warwick; dam, Phelma	Garden City Stables, San José.
Duchess of Towers, br. f., by Algerine; dam, by imp. Presto	Burns & Waterhouse, San Francisco.
Little Tough, b. f., by Glenelm	Idaho Stables, San Francisco.
Pat Murphy, rn. g., by Kyrle Daly; dam, Maggie R.	A. B. Spreckels, San Francisco.
Tim Murphy, rn. g., by Kyrle Daly; dam, Maggie R.	White & Clark, San Francisco.

## SUMMARY.

Lady Jane (Tod Sloan), 97	1
Rico (McIntyre), 98	2
Warrago (Ed. Jones), 95	3
Also ran: Duchess of Towers (108), Little Tough (98), Pat Murphy (98), Tim Murphy (112).	

Time—1:14¾.

## RACE No. 11—RUNNING.

A selling sweepstake. For maiden two-year-olds; of \$20 each; \$10 forfeit; with \$250 added; second to receive \$50 from stakes. Fixed value, \$1,500. Two pounds allowed for each \$100 to \$1,000, then three pounds to \$500. Six furlongs. Total value of stake, \$520.

Name and Pedigree of Horse.	By Whom Entered.
Mercedes Filly, blk. f., by imp. Idalum; dam, Mercedes	A. B. Spreckels, San Francisco.
El Primero, b. c., by Joe Hooker; dam, Alice N, by Norfolk	J. E. Terry, Sacramento.
Midlothian-Marigold Colt, blk. c., by imp. Midlothian; dam, Marigold, by Luke Blackburn	George Rose, San Francisco.
Torsion, b. c., by Torso; dam, by Stratford	Burns & Waterhouse, San Francisco.
Little Flush Filly, ch. f., by Torso; dam, Little Flush	Patsy Green, Mayfield.
Lily R, ch. f., by Prince of Norfolk; dam, Katie A, by Bullion	Angus Ross, Sacramento.
Ollie M, b. f., by Fresno; dam, Sophia	Pleasant Hill Stables, San Francisco.
Rhaetia, b. f., by imp. Brutus; dam, Moesta	Elmwood Farm, Milpitas.

## SUMMARY.

Mercedes Filly (Piggott), 90	1
El Primero (Hinrichs), 102	2
Midlothian-Marigold Colt (Sloan), 96	3
Also ran: Torsion (105), Little Flush Filly (90), Lily R (93), Ollie M (90), Rhaetia (93).	

Time—1:16.

## RACE No. 12—RUNNING.

The Capital City Stake. A handicap sweepstake for three-year-olds and upward; of \$50 each; half forfeit, or \$15 if declared; with \$400 added; of which \$100 to second, third to save stake. One and one sixteenth miles. Value of stake, \$1,125.

Name and Pedigree of Horse.	By Whom Entered.
Arnette, ch. f., by imp. Midlothian; dam, Telmo	Garden City Stables, San José.
Ferrier, ch. h., by Falsetto; dam, Cinderella	Del Monte Stables, San Mateo.
Installer, b. c., by imp. Brutus; dam, Installation	Elmwood Farm, Milpitas.
Imp. Candid, blk. m., by Splendor; dam, imp. Canary	A. B. Spreckels, San Francisco.
McLight, ch. c., by McDuff; dam, Longalight	J. H. Shields & Co., San Francisco.
Del Norte, br. c., by imp. Greenback; dam, Priscilla	Woodlawn Stables, San Francisco.
Lovdal, ch. h., by Wildidle; dam, Free Love, by Luke Blackburn	Burns & Waterhouse, San Francisco.

## SUMMARY.

Arnette (Jones), 96	1
Ferrier (Miller), 116	2
Installer (Chevalier), 106	3
Also ran: Candid (105), McLight (108), Del Norte (116), Lovdal (112).	

Time—1:46¾.

## RACE No. 13—RUNNING.

Purse, \$500. A handicap for all ages; of which \$75 to second and \$50 to third. Entrance, \$25; declaration, \$10. Three quarters of a mile.

Name and Pedigree of Horse.	By Whom Entered.
Libertine, b. h., by Leonatus; dam, Falaise .....	J. G. Brown & Co., St. Louis, Mo.
Vincto, b. c., by imp. Brutus; dam, Mollie H. ....	Elmwood Farm, Milpitas.
Roadrunner, ch. s., by Joe Daniels; dam, Miss Hooker .....	George W. Berry, San Francisco.
Grady, b. c., by Three Cheers; dam, Goldcup .....	Owen Bros., Fresno.
Fannie Louise, b. f., by Darebin; dam, Nellie Peyton ..	Burns & Waterhouse, San Francisco.
Gallant, b. c., by Fellowcharm; dam, Jennie Belshaw, by Wildidle .....	A. B. Spreckels, San Francisco.

## SUMMARY.

Libertine (Macklin), 122 .....	1
Vincto (Chevalier), 106 .....	2
Roadrunner (W. Flynn), 102 .....	3
Also ran: Grady (96), Fannie Louise (105), Gallant (103).	
Time—1:13½.	

## RACE No. 14—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Fixed value, \$1,000. Three pounds off for each \$100 to \$500, then four pounds to \$100. Winners of three races to carry five pounds extra; non-winners allowed five pounds. One mile.

Name and Pedigree of Horse.	By Whom Entered.
Nebuchadnezzar, b. c., by imp. Brutus; dam, Gypsette .....	Elmwood Farm, Milpitas.
Ike L, ch. c., by Major Ban; dam, Miss Flush .....	Garden City Stables, San José.
Rear Guard, b. c., by Post Guard; dam, Alfonie Carter .....	George Rose, San Francisco.
Shirdy, ch. g., by Hidalgo; dam, Veracity .....	C. A. Stevenson, San Francisco.
Navy Blue, b. g., by Blue Wing; dam, Bay Betty .....	A. B. Spreckels, San Francisco.
Bellringer, b. g., by Troubadour; dam, Bosque Belle .....	F. Taylor, San Francisco.

## SUMMARY.

Nebuchadnezzar (Chevalier), 94 .....	1
Ike L (Ed. Jones), 90 .....	2
Rear Guard (Sloan), 100 .....	3
Also ran: Shirdy (90), Navy Blue (76), and Bellringer (103).	
Time—1:41½.	

FRIDAY, SEPTEMBER 6, 1895.

## RACE No. 15—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Fixed value, \$2,000. One pound off for each \$100 to \$1,000, then two pounds to \$500, then three pounds to \$100. Non-winners allowed seven pounds; maidens, ten pounds. Three quarters of a mile.

Name and Pedigree of Horse.	By Whom Entered.
Crawford, ch. g., by Apache; dam, Emma Longfield .....	G. W. Berry, San Francisco.
Miss Buckley, b. f., by imp. Brutus; dam, Forma .....	Elmwood Farm, Milpitas.
Warrago, b. m., by Warwick; dam, Phelma .....	Garden City Stables, San José.
Goldbug, s. g., by Pittsburg; dam, Mollie S. ....	J. Hunter, San Francisco.
Nellie G, g. m., by Sampson; dam, untraced .....	South Park Stables, San Francisco.
Artemus, b. g., by Argyle; dam, by Sir Modred .....	H. Jones, Sacramento.



## SUMMARY.

Crawford (Piggott), 96 .....	1
Miss Buckley (Jones), 87 .....	2
Warrago (W. Flynn), 101 .....	3
Also ran: Goldbug (104), Nellie G (97), Artemus (95).	

Time—1:15¼.

## RACE No. 16—RUNNING.

Purse, \$500. A handicap for three-year-olds; of which \$75 to second and \$50 to third. Entrance, \$25; declaration, \$10. One and one sixteenth miles.

Name and Pedigree of Horse.	By Whom Entered.
Bright Phœbus, b. c., by Falsetto; dam, Buff and Blue .....	Del Monte Stables, San Mateo.
Little Bob, ch. g., by Surinam; dam, Daisy S. ....	Davenport Stables, Sacramento.
Capt. Skedance, b. g., by imp. Cyrus; dam, imp. Getaway, by Balfe .....	A. B. Spreckels, San Francisco.
Peter the Second, b. c., by imp. Brutus; dam, Bonnie Jean .....	Elmwood Farm, Milpitas.
Fannie Louise, b. f., by Darebin; dam, Nellie Peyton .....	Burns & Waterhouse, San Francisco.

## SUMMARY.

Bright Phœbus (Miller), 118 .....	1
Little Bob (Jones), 87 .....	2
Capt. Skedance (Piggott), 95 .....	3
Also ran: Peter the Second (105), Fannie Louise (107).	

Time—1:49¼.

## RACE No. 17—RUNNING.

Purse, \$400. A handicap for two-year-olds; of which \$75 to second and \$25 to third. Entrance, \$25; declaration, \$10. Five and one half furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Belle Boyd, ch. f., by El Rio Rey .....	J. P. Atkins, San Francisco.
Benham, ch. c., by Flambeau; dam, Gerhardine .....	F. Farrar, San Francisco.
Rummel, ch. c., by Flambeau; dam, imp. Music .....	A. B. Spreckels, San Francisco.
Midlo, b. g., by imp. Midlothian; dam, Electric Light .....	Burns & Waterhouse, San Francisco.

## SUMMARY.

Belle Boyd (Jones), 95 .....	1
Benham (Chevalier), 102 .....	2
Rummel (Piggott), 102 .....	3
Midlo (Walker), 100 .....	0

Time—1:09.

## RACE No. 18—RUNNING.

The Sunny Slope Stake. A sweepstake for two-year-old fillies; of \$25 each; \$10 forfeit; with \$250 added; second to receive \$50 from stakes. Winners of two races of any value, to carry three pounds; of three, five pounds; of four or more, ten pounds extra. Maidens allowed five pounds. Beaten maidens allowed, for once, five pounds; twice, seven pounds; three times, ten pounds. Fillies beaten three times and not placed 1, 2, 3, allowed five pounds additional. Five furlongs. Total value of stake, \$535.

Name and Pedigree of Horse.	By Whom Entered.
Princess Noretta, b. f., by Emperor of Norfolk; dam, Hinda Dwyer	Burns & Waterhouse, San Francisco.
Sweet Rose, ch. f., by Flambeau; dam, imp. Fairy Rose, by Kisber	Burns & Waterhouse, San Francisco.
Lucille, b. f., by St. Savior; dam, imp. Sardonyx	A. B. Spreckels, San Francisco.
Miss Cunningham, ch. f., by Three Cheers; dam, Margaretta	W. M. Murry, Sacramento.
Heartsease, b. f., by imp. Kyrle Daly; dam, Extract	J. C. Humphrey, San Francisco.
Easel, br. f., by Ben Ali; dam, by Ezza	Woodlawn Stables, San Francisco.
Treachery, b. f., by Hanover; dam, Deceit, by Ten Broeck	J. G. Brown & Co., St. Louis, Mo.

## SUMMARY.

Princess Noretta (Donahue), 115	1
Sweet Rose (Flynn), 110	2
Lucille (Piggott), 95	3

Also ran: Miss Cunningham (105), Heartsease (125), Easel (115), and Treachery (105).

Time—1:02½.

## RACE No. 19—RUNNING.

Handicap Hurdle Race. Purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Entrance, \$20; declaration, \$10. Five hurdles. One and one quarter miles.

Name and Pedigree of Horse.	By Whom Entered.
Onti Ora, blk. m., by Alta; dam, Thetis	B. F. Hobart, Bakersfield.
Esperance, b. g., by Alta; dam, Mother Hubbard	J. A. Tobin, San Francisco.
Ali Baba, b. c., by Joe Daniels; dam, Test	Del Monte Stables, San Mateo.
Bellringer, br. g., by Troubadour; dam, Bosque Belle	Rico Stables, San Francisco.
Uncertainty, br. h., by Emperor; dam, Quandary	J. G. Brown & Co., St. Louis, Mo.

## SUMMARY.

Onti Ora (E. Finn), 125	1
Esperance (Goodman), 126	2
Ali Baba (Mora), 155	3

Also ran: Bellringer (145) and Uncertainty (152).

Time—2:18.

SATURDAY, SEPTEMBER 7, 1895.

## RACE No. 20—RUNNING.

Selling purse, \$400. For three-year-olds and upwards that have not won more than three races since January 1st; of which \$75 to second and \$25 to third. Fixed value, \$1,000. Three pounds off for each \$100 to \$500; then one pound off for each \$50 to \$100. Winners of three races, five pounds extra; non-winners allowed five pounds. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Inkerman, b. g., by Ironclad .....	Owen Bros., Fresno.
Mary S, b. m., by Duke of Montrose; dam, Ocean Wave .....	J. H. Shields & Co., San Francisco.
Pat Murphy, rn. h., by imp. Kyrle Daly; dam, Maggie R .....	A. B. Spreckels, San Francisco.
Rosebud, ch. f., by Tyrant; dam, Rosemary .....	Burns & Waterhouse, San Francisco.
Rob Roy, b. g., by Robson; dam, Greenleaf .....	B. F. Hobart, Bakersfield.

## SUMMARY.

Inkerman (Sloan), 101 .....	1
Mary S (Macklin), 102 .....	2
Pat Murphy (Piggott), 99 .....	3
Also ran: Rosebud (102) and Rob Roy (97).	
Time—1:15¼.	

## RACE No. 21—RUNNING.

Native Sons' Handicap. A sweepstake for three-year-olds and upwards. Entrance, \$25; half forfeit, or only \$10 if declared; with \$500 added by Mr. George Rose; of which \$100 to second and \$50 to third. One and one eighth miles. Total value of stake, \$745.

Name and Pedigree of Horse.	By Whom Entered.
Installator, b. c., by imp. Brutus; dam, Installation .....	Elmwood Farm, Milpitas.
McLight, ch. c., by McDuff; dam, Longalight .....	J. H. Shields & Co., San Francisco.
Del Norte, br. h., by imp. Greenback; dam, Priscilla .....	Woodlawn Stables, San Francisco.
Lovdal, ch. c., by Wildidle; dam, Free Love, by Luke Blackburn .....	Burns & Waterhouse, San Francisco.
Romulus, b. c., by imp. Brutus; dam, Beauty .....	Del Monte Stables, San Mateo.
Gilead, b. h., by St. Savior; dam, Mistake, by Wildidle .....	Sycamore Stables, Sacramento.
Captain Skedance, b. g., by imp. Cyrus; dam, imp. Getaway, by Balfe .....	A. B. Spreckels, San Francisco.

## SUMMARY.

Installator (Sloan), 108 .....	1
McLight (Macklin), 104 .....	2
Del Norte (Hennessy), 112 .....	3
Also ran: Lovdal (100), Romulus (106), Gilead (112), Captain Skedance (90).	
Time—1:53¼.	



## RACE No. 22—RUNNING.

The Del Mar Stake. For three-year-olds and upwards; of \$25 each; \$15 forfeit; with \$300 added; \$50 to second, from stake. This stake to be named after winner if Del Mar's time (1:41½) be beaten, with \$200 additional in money, cup, or plate. One mile. Total value of stake, \$900.

Name and Pedigree of Horse.	By Whom Entered.
Vinctor, b. c., by imp. Brutus; dam, Mollie H.....	Elmwood Farm, Milpitas.
Ferrier, ch. h., by Falsetto; dam, Cinderella.....	Del Monte Stables, San Mateo.
Libertine, b. c., by Leonatus; dam, Falaise, by King Alfonso.....	J. G. Brown & Co., St. Louis, Mo.
Wheel of Fortune, ch. m., by Gano; dam, Jennie B.....	J. Harvey, San Francisco.

## SUMMARY.

Vinctor (Sloan), 112 .....	1
Ferrier (Miller), 122 .....	2
Libertine (Macklin), 122 .....	3
Wheel of Fortune (Jones), 109 .....	0

Time—1:40.

## RACE No. 23—RUNNING.

The California Annual Stake. A sweepstake for two-year-olds; of \$25 each; \$10 forfeit; with \$300 added; second to receive \$50. Winners of two races of any value, to carry three pounds; three, five pounds; four or more, ten pounds extra. Allowances: Maidens, five pounds; beaten maidens, five pounds for once, seven pounds for twice, ten pounds for three times or more. Those beaten three times and not placed 1, 2, 3, allowed additional five pounds. Six furlongs. Total value of stake, \$535.

Name and Pedigree of Horse.	By Whom Entered.
Instigator, b. c., by imp. Brutus; dam, Installation.....	Elmwood Farm, Milpitas.
Sam Leake, br. c., by Darebin; dam, Carrie C.....	Burns & Waterhouse, San Francisco.
Lucille, b. f., by St. Savior; dam, imp. Sardonyx.....	A. B. Spreckels, San Francisco.

## SUMMARY.

Instigator (Miller), 118 .....	1
Sam Leake (Donahue), 113 .....	2
Lucille (Piggott), 105 .....	3

Time—1:17½.

## RACE No. 24—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Weights, ten pounds above scale. Fixed value, \$1,500. Two pounds off for each \$100 to \$1,000; then three pounds to \$500; then four pounds to \$100. Non-winners allowed five pounds extra. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Bernardo, br. g., by imp. Cheviot; dam, Sweet Peggy.....	Pleasanton Stables, San Francisco.
Nebuchadnezzar, b. c., by imp. Brutus; dam, Gypsette.....	Elmwood Farm, Milpitas.
Roadrunner, ch. g., by Joe Daniels; dam, Miss Hooker.....	G. W. Berry, San Francisco.
Ike L, ch. c., by Major Ban; dam, Miss Flush.....	Garden City Stables, San José.
Tim Murphy, rn. g., by imp. Kyrle Daly; dam, Maggie R.....	White & Clark, San Francisco.
Amarino, b. s., by Kealer; dam, Amadine.....	R. Balintine, Sacramento.
Goldbug, s. g., by Pittsburg; dam, Mollie S.....	J. Hunter, San Francisco.
Rico, br. g., by Shannon; dam, Fannie Lewis, by imp. Buckden.....	Frank Taylor, San Francisco.
Rear Guard, b. h., by Post Guard; dam, Alfonie Carter.....	George Rose, San Francisco.

## SUMMARY.

Bernardo (Hinrichs), 95 .....	1
Nebuchadnezzar (Cnevalier), 93 .....	2
Roadrunner (Piggott), 95 .....	3

Also ran: Ike L (89), Tim Murphy (103), Amarino (107), Goldbug (99), Rico (99), and Rear Guard (99).

Time—1:14½.

## MONDAY, SEPTEMBER 9, 1895.

## RACE No. 25—TROTTING.

Free for all four-year-olds. Purse, \$800. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Visalia, br. m., by Iris; dam, Scratch, by Loppy .....	H. P. Perkins, Visalia.
John Bury, b. g., by Antinous; dam, Muldoon, by George M. Patchen, Jr. ....	Vendome Stock Farm, San José.
Nellie W, ch. f., by Woolsey; dam, Nellie R, by Inca. ....	Richard Gird, Chino.
Ravenscroft, b. s., by Guy Wilkes; dam, Eva, by Le Grande .....	William Corbett, San Mateo.
McZeus, br. s., by McKinney; dam, Grace, by Kaiser .....	C. Conant, Los Angeles.

## SUMMARY.

Visalia (J. A. Perkins) .....	1	3	1	1
John Bury (C. F. Bunch) .....	3	1	2	4
Nellie W (E. B. Connolly) .....	2	2	3	2
Ravenscroft (T. J. McKinney) .....	4	4	4	3
McZeus (P. W. Hodges) .....	5	5	wd.	

Time—2:15; 2:15¾; 2:15¾; 2:18.

## RACE No. 26—TROTTING.

2:14 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Iago, b. g., by Tempest; dam, Eulogy, by Commodore Belmont .....	Williams & Morehouse, Milpitas.
Zombro, b. s., by McKinney; dam, Whisper, by Almont Lightning .....	C. A. Durfee, Los Angeles.
Stam B, b. c., by Stamboul; dam, by Happy Medium .....	Tuttle Bros., Rocklin.
Bruno, b. s., by Junio; dam, Dolly, by Mozart .....	C. Z. Hebert, Salinas.
Boodle, br. s., by Stranger; dam, Bride, by Jay Gould .....	G. K. Hostetter, San José.
George Dexter, br. h., by Dexter Prince; dam, Nellie C, by Killrush .....	River View Stock Farm, Sacramento.

## SUMMARY.

Iago (T. Keating) .....	1	1	1
Zombro (C. A. Durfee) .....	2	3	2
Stam B (M. C. Delano) .....	4	2	3
Bruno (James Dwain) .....	3	5	5
Boodle (B. O. Van Bokkelen) .....	5	4	4
George Dexter (C. J. Bennet) .....	6	6	6

Time—2:11; 2:12¾; 2:13¼.

## RACE NO. 27—TROTTING.

2:27 Class. Purse, \$800. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Dr. Puff, b. g., by Bay Bird; dam, Patty Puff, by Sailor Boy .....	..... Thompson & Mentrum, Missoula, Montana.
Our Lucky, b. s., by Rajah; dam, Dora, by Gibraltar .....	..... J. Starr, Los Angeles.
Jasper Paulson, blk. g., by Wildnut; dam, by Norway .....	..... Winship & Keating, San José.
Lady Vestal, b. m., by Richards' Elector; dam, Amandy, by Defiance .....	..... H. Nicewonger, Stockton.
Anita, b. m., by Junio; dam, Anita G, by Fallis .....	..... E. T. Breen, Salinas.
Edwina, s. f., by Sidney; dam, Lady Bell, by Chief-tain .....	..... H. W. Meek, San Lorenzo.
Charivari, br. m., by Sterling; dam, by Prompter..	..... Charles A. Hug, San Francisco.

## SUMMARY.

Dr. Puff (J. Sullivan) .....	4	1	2	1	0	1
Our Lucky (George Maben) .....	1	4	1	2	0	2
Jasper Paulson (T. Keating) .....	3	2	3	3		
Lady Vestal (H. Carrillo) .....	2	7	6	4		
Anita (C. Roderiguez) .....	5	3	4	5		
Edwina (George Gray) .....	6	5	5	7		
Charivari (T. C. Snider) .....	7	6	7	6		

Time—2:19; 2:20¾; 2:17½; 2:19; 2:26½; 2:22½.

NOTE.—The fifth heat was declared no heat, and R. J. Havey was substituted for Maben as driver of Our Lucky.

## TUESDAY, SEPTEMBER 10, 1895.

## RACE NO. 28—PACING.

Two-year-old pacing stake. 2:30 Class. \$50 entrance; of which \$10 must accompany nomination; \$15 payable July 1st, and the remaining \$25 payable August 10, 1895. \$300 added by the Society. Mile heats. Closed March 16th, with seven nominations. Total value of stake, \$570.

Name and Pedigree of Horse.	By Whom Entered.
Jennie Mc, b. f., by McKinney; dam, Leonor, by Dashwood .....	..... C. A. Durfee, Los Angeles.
Prince Bismarck, b. c., by Almont Patchen; dam, Minnie K, by Blue Bell .....	..... Milo Knox, Haywards.
King Cadenza, b. g., by Steinway; dam, Empress..	..... Oakwood Park Stock Farm, Danville.
Agitato, b. g., by Steinway; dam, Tone, by Ferguson .....	..... M. F. Sanders, Sacramento.

## SUMMARY.

Jennie Mc (Durfee) .....	1	1
Prince Bismarck (Gray) .....	2	2
King Cadenza (Chaboya) .....	3	3
Agitato (Sanders) .....		dis.

Time—2:22; 2:27¾.



## RACE No. 29—PACING.

Free for all. Purse, \$800. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Waldo J, g. h., by Bob Mason; dam, by A. W. Richmond	James Mack, Santa Paula.
Pathmont, br. s., by Altamont; dam, by Pathfinder	Winship & Keating, San José.
W. Wood, b. g., by Steinway; dam, Ramona	Oakwood Park Stock Farm, Danville.
Seymour W, b. s., by Guy Wilkes	George B. Polhemus, San José.

## SUMMARY.

Waldo J (James Mack)	1	2	1	1
Pathmont (T. Keating)	3	1	2	3
W. Wood (B. Chaboya)	2	3	3	2
Seymour W (Ed. Lafferty)	dis.			

Time—2:11¾; 2:11¼; 2:17; 2:16.

## SPECIAL—PACING.

2:13 Class. Purse, \$800. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Fred Mason, b. g., by Bob Mason; thoroughbred	La Siesta Ranch, Menlo Park.
Ottinger, br. g., by Dorsey's Nephew; dam, unknown	Winship & Keating, San José.
Hanford Medium, b. h., by Milton R; dam, by Signal	S. C. Tryon, Sacramento.
Plunkett, b. g., by Strathconan; dam, Fly, by Bulgera	D. R. Misner, Petaluma.

## SUMMARY.

Fred Mason (Ed. Lafferty)	1	1	1
Ottinger (T. Keating)	4	2	2
Hanford Medium (S. C. Tryon)	2	4	3
Plunkett (D. R. Misner)	3	3	4

Time—2:15¾; 2:13¼; 2:14¼.

## RACE No. 30—TROTTING.

Two-mile heats. For horses eligible to the 2:25 Class. Purse, \$800. Best two in three.

Name and Pedigree of Horse.	By Whom Entered.
Ethel Downs, blk. m., by Boodle; dam, by Nutwood	Winship & Keating, San José.
Flora G, br. m., by Altoona; dam, Susie, by Conway's Patchen	Agnew Stock Farm, Hillsdale.
Bonnie Ben, ch. g., by Ben Lomond; dam, by Kentucky Volunteer	S. C. Tryon, Sacramento.
Letter B, b. m., by Ward B; dam, Brown Irish, by Judge McKinstrey	Weathers & Lowery, Hollister.
Gilpatrick, b. s., by Junio; dam, by Gilpatrick	E. T. Breen, Salinas.
Peter W, b. g., by Roscoe; dam, untraced	W. S. Maben, Los Angeles.

## SUMMARY.

Ethel Downs (Keating)	1	1
Flora G (Connolly)	4	2
Bonnie Ben (Tryon)	2	4
Letter B (S. E. Kent)	3	3
Gilpatrick (Roderiguez)	5	5
Peter W (George Maben)	6	6

Time—4:49½; 4:47½.

WEDNESDAY, SEPTEMBER 11, 1895.

## RACE No. 31—TROTTING.

For three-year-olds and under. 2:25 Class. \$100 entrance; of which \$25 must accompany nomination; \$25 payable July 1st, and the remaining \$50 payable August 10, 1895; \$400 added by the Society. Closed March 16th, with eleven nominations. Mile heats, three in five. Total value of stake, \$1,175.

Name and Pedigree of Horse.	By Whom Entered.
Jasper Ayers, b. g., by Iris; dam, Babe. ....	H. P. Perkins, Visalia.
Miss Jessie, b. f., by Gossiper; dam, Leonor, by Dashwood. ....	W. H. Stimson, Los Angeles.
Corinne Neilson, b. f. by Clarence Wilkes; dam, Flossie. ....	Los Cerritos Farm, San Francisco.

## SUMMARY.

Jasper Ayers (J. A. Perkins).....	1	1	1
Miss Jessie (W. H. Stimson).....	2	2	2
Corinne Neilson (Ed. Bennett).....	3	3	3

Time—2:20¼; 2:24¾; 2:35.

## RACE No. 32—TROTTING.

2:20 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Irene Crocker, gr. m., by Will Crocker; dam, untraced. ....	Richard Gird, Chino.
Native State, b. s., by Starr Sultan; dam, by Wellington. ....	W. S. Maben, Los Angeles.
Prince Ira, b. s., by Dexter Prince; dam, Luella, by Sultan. ....	Ira L. Ramsdell, San Francisco.
Columbus S, b. h., by McDonald Chief; dam, Fannie Rose, by Ethan Allen. ....	Thomas Smith, Vallejo.
Chico, b. g., by Monroe Chief; dam, by Blackbird. ....	Park Henshaw, Chico.
Lady Thornhill, b. m., by Billy Thornhill; dam, Flora, by Black Boy. ....	M. W. Woods, San Francisco.
Bay Rum, br. s., by John Sevenoaks; dam, Kitty S, by Quien Sabe. ....	J. D. Carr, Salinas.
Escort, br. s., by Guide; dam, May Girl, by May Boy. ....	Wietfeldt & Mounts, Red Bluff.
Jennie June, br. m., by Motor; dam, unknown. ....	John Baker, Santa Ana

## SUMMARY.

Irene Crocker (E. B. Connolly).....	2	1	6	3	1	4	1
Native State (George Maben).....	1	2	8	2	2	1	3
Prince Ira (J. M. Alviso).....	9	9	7	1	3	2	2
Columbus S (Thomas Smith).....	8	8	1	8	4	3	4
Chico (J. Sullivan).....	7	4	2	7			
Lady Thornhill (Corey).....	3	3	5	4			
Bay Rum (James Dwain).....	4	5	3	9			
Escort (J. Berryman).....	6	6	4	6			
Jennie June (John Baker).....	5	7	9	5			

Time—2:17; 2:17¾; 2:27½; 2:20; 2:20; 2:21¼; 2:22.

NOTE.—Three heats trotted September 11th. Race postponed on account of rain, and finished Saturday, September 14th.

## RACE No. 33—PACING.

2:19 Class. Purse, \$1,000. Mile heats, best three in five.

Name and Pedigree of Horse.	By Whom Entered.
Birdroe, b. m., by Mark Monroe; dam, by Whirlwind Chief .....	John Baker, Santa Ana.
Loupe, blk. g., by John Sevenoaks; dam, Lalla Rookh, by Echo .....	Agnew Stock Farm, Hillsdale.
Ruby M, b. m., by Almont Patchen; dam, by Almont .....	T. B. Marr, Jr., Colusa.
Prince Nutwood, blk. s., by Dexter; dam, by Nutwood .....	B. F. Langford, Lodi.
Ella W., br. m., by Eros; dam, by Robert St. Clair .....	L. H. Warburton, Milpitas.
Dictatus, ch. s., by Red Wilkes; dam, Miss Lollie, by Dictator .....	F. M. Day, Belmont.

## SUMMARY.

Birdroe (John Baker) .....	4	1	1	1
Loupe (McManus and Havey) .....	1	5	2	3
Ruby M (J. Sullivan) .....	3	2	4	2
Prince Nutwood (M. F. Sanders) .....	2	3	3	4
Ella W (Hillman) .....	5	4	5	5
Dictatus (Bigelow) .....	dis.			

Time—2:14½; 2:13¾; 2:16; 2:19.

NOTE.—Three heats paced September 11th. Race postponed on account of rain, and finished Saturday, September 14th.

## THURSDAY, SEPTEMBER 12, 1895.

## RACE No. 34—RUNNING.

Selling purse, \$400. For maiden two-year-olds; of which \$75 to second and \$25 to third. Fixed value, \$1,000. Two pounds off to \$500, then three pounds to \$100. Five furlongs.

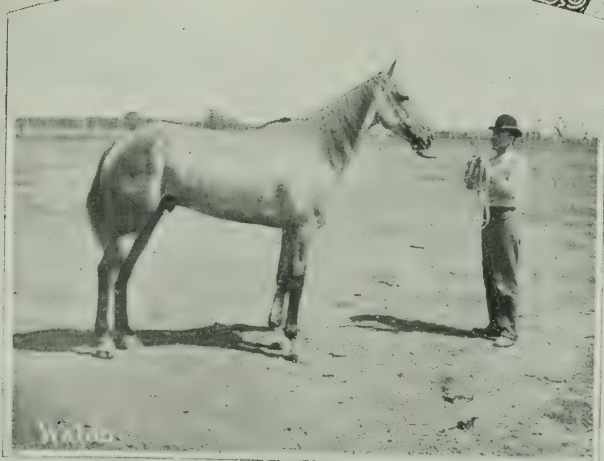
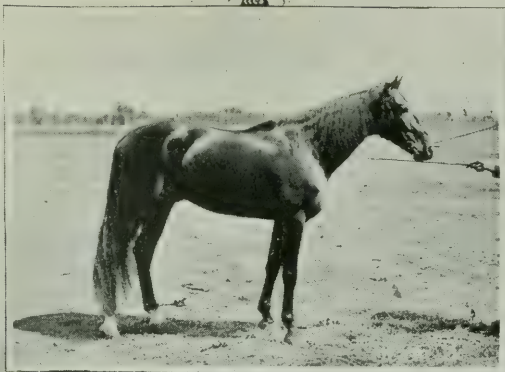
Name and Pedigree of Horse.	By Whom Entered.
Palomacita, ch. f., by Surinam; dam, Paloma .....	Burns & Waterhouse, San Francisco.
Treachery, b. f., by Hanover; dam, Deceit .....	J. G. Brown & Co., St. Louis, Mo.
Ollie M, ch. f., by Fresno; dam, Sophia .....	Pleasant Hill Stables, San Francisco.
Pansy, s. f., by Three Cheers; dam, Spray, by Joe Hooker .....	John Lodge, Sacramento.
Cyrene, b. f., by imp. Cyrus; dam, Faustine .....	M. J. Kelly, San Francisco.
Little Flush Filly, b. f., by Torso; dam, Little Flush .....	Patsy Green, Mayfield.
Lily R, ch. f., by Prince of Norfolk; dam, Katie A. .....	A. Ross, Sacramento.
Kyrle Daly Gelding, ch. g., by Kyrle Daly; dam, Cliquita .....	H. Burns, San Francisco.

## SUMMARY.

Palomacita (Donnelly), 93 .....	1
Treachery (Macklin), 105 .....	2
Ollie M (Riley), 93 .....	3
Also ran: Pansy (99), Cyrene (93), Little Flush Filly (93), Lily R (99), and Kyrle Daly Gelding (99).	

Time—1:03¼.





THE FAMOUS FOUR-YEAR-OLD TROTTER, STAM B, 2:15½.  
 THE GOLD MEDAL WINNER, MCKINNEY, 2:11¼.  
 THE PACING GELDING, WALDO J, 2:10.



## RACE No. 35—RUNNING.

Handicap for two-year-olds. Purse, \$400; of which \$75 to second and \$25 to third. Entrance, \$20; or only \$10 if declared. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Belle Boyd, ch. f., by El Rio Rey .....	J. P. Atkins, San Francisco.
Grady, b. c., by Three Cheers; dam, Goldcup .....	Owen Bros., Fresno.
Heartsease, b. f., by imp. Kyrle Daly; dam, Extract .....	J. C. Humphrey, San Francisco.
Joe K, s. c., by Jim Brown; dam, Proximate .....	M. Kerr, San Francisco.
Lucrezia Borgia, ch. f., by imp. Brutus; dam, Installation .....	Elmwood Farm, Milpitas.
Brother John, b. g., by Red Iron; dam, Maggie D, by Jim Douglass .....	Frank Strong, San Francisco.

## SUMMARY.

Belle Boyd (Piggott), 105 .....	1
Grady (Sloan), 118 .....	2
Heartsease (Miller), 112 .....	3

Also ran: Joe K (110), Lucrezia Borgia (105), Brother John (105).

Time—1:16½.

## RACE No. 36—RUNNING.

The Fall Stake. A handicap sweepstake for three-year-olds and upwards; of \$50 each, half forfeit, or \$15 if declared; with \$400 added; of which \$100 to second; third to save stake. One and one quarter miles. Value of stake, \$975.

Name and Pedigree of Horse.	By Whom Entered.
Bright Phœbus, b. c., by Falsetto; dam, Buff and Blue .....	Del Monte Stables, San Mateo.
McLight, ch. c., by McDuff; dam, Longalight .....	J. H. Shields & Co., San Francisco.
Del Norte, br. c., by imp. Greenback; dam, Priscilla .....	Woodlawn Stables, San Francisco.
Arnette, ch. f., by imp. Midlothian; dam, Telmo .....	Garden City Stables, San José.
Lovdal, ch. c., by Wildidle; dam, Free Love, by Luke Blackburn .....	Burns & Waterhouse, San Francisco.

## SUMMARY.

Bright Phœbus (Miller), 114 .....	1
McLight (Macklin), 105 .....	2
Del Norte (Hennessy), 108 .....	3

Also ran: Arnette (100) and Lovdal (98).

Time—2:08¼.

## SUBSTITUTE FOR No. 37—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Fixed value, \$1,000. Three pounds off for each \$100 down to \$500, then four pounds off for each \$100 down to \$100. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Pat Murphy, rn. g., by imp. Kyrle Daly; dam, Maggie R .....	A. B. Spreckels, San Francisco.
Nervoso, ch. g., by imp. Brutus; dam, Nerva .....	Elmwood Farm, Milpitas.
Duchess of Towers, br. f., by Algerine; dam, Presto .....	Burns & Waterhouse, San Francisco.
Abi P, ch. m., by Three Cheers; dam, Dairy Maid .....	G. Pacheco, Novato.
Warrago, b. m., by Warwick; dam, Phelma .....	Garden City Stables, San José.
Captain Rees, ch. g., by George Kinney; dam, Kate Clark .....	J. H. Shields & Co., San Francisco.



## SUMMARY.

Pat Murphy (Piggott), 93 .....	1
Nervoso (E. Jones), 89 .....	2
Duchess of Towers (Donnelly), 98 .....	3

Also ran: Abi P (96), Warrago (92), Captain Rees (107).

Time—1:15½.

## RACE No. 38—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Fixed value, \$800. Three pounds off for each \$100 to \$500, then two pounds for each \$50 to \$100. Non-winners allowed seven pounds. One mile.

Name and Pedigree of Horse.	By Whom Entered.
Nebuchadnezzar, b.c., by imp. Brutus; dam, Gypsette	Elmwood Farm, Milpitas.
Roadrunner, ch. h., by Joe Daniels; dam, Miss Hooker	George W. Berry, San Francisco.
Lady Jane, br. f., by imp. Midlothian; dam, Aunt Jane	George Rose, San Francisco.

## SUMMARY.

Nebuchadnezzar (E. Jones), 91 .....	1
Roadrunner (Piggott), 101 .....	2
Lady Jane (Sloan), 96 .....	3

Time—1:44.

FRIDAY, SEPTEMBER 13, 1895.

## RACE No. 39—RUNNING.

Selling purse, \$400. For two-year-olds; of which \$75 to second and \$25 to third. Weights, five pounds above scale. Fixed value, \$1,200. Two pounds off for each \$100 to \$600, then three pounds to \$100. A winner of three or more two-year-old races to carry five pounds extra. Five and one half furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Palomacita, ch. f., by Surinam; dam, Paloma .....	Burns & Waterhouse, San Francisco.
Easel, br. f., by Ben Ali; dam, Ezza .....	Woodlawn Stables, San Francisco.
Josephine, gr. f., by imp. Sir George; dam, Una B. ....	A. J. Smith, San Francisco.
Belle Oak, ch. f., by Apache; dam, Julia Martin .....	Idaho Stables, San Francisco.

## SUMMARY.

Palomacita (Donnelly), 96 .....	1
Easel (E. Jones), 96 .....	2
Josephine (Riley), 93 .....	3
Belle Oak (Hazlett), 96 .....	0

Time—1:09½.

## RACE No. 40—RUNNING.

\* Selling purse, \$400. For three-year-olds and upwards that have not won this year. Fixed value, \$1,000. Two pounds off for each \$100 to \$500, then three pounds to \$100. Winners at this meeting to carry five pounds extra. Non-winners allowed five pounds. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Miss Buckley, b. f., by imp. Brutus; dam, Forma.....	Elmwood Farm, Milpitas.
Goldbug, s. g., by Pittsburg; dam, Mollie S.....	J. Hunter, San Francisco.
Navy Blue, b. g., by Blue Wing; dam, Bay Bettie.....	A. B. Spreckels, San Francisco.
Rob Roy, b. g., by Robson; dam, Greenleaf.....	B. F. Hobart, Bakersfield.
Mary S, b. m., by Duke of Montrose; dam, Ocean Wave.....	J. H. Shields & Co., San Francisco.
Foremost, b. g., by Flood; dam, imp. Queen Bess.....	A. B. Spreckels, San Francisco.
Rosebud, ch. f., by Tyrant; dam, Rosemary.....	Burns & Waterhouse, San Francisco.
Abi P, ch. m., by Three Cheers; dam, Dairy Maid.....	G. Pacheco, Novato.
Morven, ch. g., by imp. Cheviot; dam, Lurline.....	G. W. Beardsley, San Francisco.

## SUMMARY.

Miss Buckley (Sloan), 89.....	1
Goldbug (Hinrichs), 101.....	2
Navy Blue (E. Jones), 89.....	3
Also ran: Rob Roy (98), Mary S (98), Foremost (92), Rosebud (92), Abi P (104), and Morven (98).	

Time—1:15.

## SUBSTITUTE FOR RACE No. 41—RUNNING.

Handicap for two-year-olds. Purse, \$400; of which \$75 to second and \$25 to third. Entrance, \$20, or \$10 if declared. Five furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Grady, b. c., by Three Cheers; dam, Goldcup.....	Owen Bros., Fresno.
Belle Boyd, ch. m., by El Rio Rey.....	J. P. Atkins, San Francisco.
Tiberius, b. g., by imp. Brutus; dam, Swayback.....	Elmwood Farm, Milpitas.
Benham, ch. c., by Flambeau; dam, Gerhardine.....	F. Farrar, San Francisco.
Instigator, b. c., by imp. Brutus; dam, Installation.....	Elmwood Farm, Milpitas.

## SUMMARY.

Grady (Sloan), 114.....	1
Belle Boyd (Piggott), 107.....	2
Tiberius (E. Jones), 95.....	3
Also ran: Benham (106) and Instigator (112).	

Time—1:02.

## RACE No. 42—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Weights, five pounds above scale. Fixed value, \$1,000. Three pounds allowed for each \$100 to \$500, then two pounds for each \$50 to \$100. Non-winners, if beaten twice, allowed five pounds; three times, seven pounds; five times or more, ten pounds. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Bernardo, br. g., by imp. Cheviot; dam, Sweet Peggy	Pleasanton Stables, San Francisco.
Rose Clark, s. m., by Prince of Norfolk; dam, Etta W.	A. Wakeman, Sacramento.
Duchess of Towers, b. f., by Algerine; dam, imp. Presto	Burns & Waterhouse, San Francisco.
Inkerman, b. g., by Ironclad; dam, Alice	Owen Bros., Fresno.
Silver State, b. m., by imp. Cheviot; dam, Bessie Shannon	Thompson & O'Keefe, San Francisco.
Ike L, ch. c., by Major Ban; dam, Miss Flush	Garden City Stables, San José.
Blue Bell, b. m., by Prince of Norfolk; dam, Gem of the Mountains	A. Y. Stephenson, Sacramento.

## SUMMARY.

Bernardo (Piggott), 100	1
Rose Clark (Hinrichs), 101	2
Duchess of Towers (Donnelly), 90	3
Also ran: Inkerman (100), Silver State (101), Ike L (90), and Blue Bell (101).	

Time—1:15½.

## RACE No. 43—RUNNING.

Hurdle handicap. Purse, \$400; entrance, \$20; declaration, \$10; of which \$75 to second and \$25 to third. Seven hurdles. One and three quarters miles.

Name and Pedigree of Horse.	By Whom Entered.
Esperance, b. g., by Alta; dam, Mother Hubbard	J. A. Tobin, San Francisco.
Onti Ora, blk. m., by Alta; dam, Thetis	B. F. Hobart, Bakersfield.
Guadalupe, ch. g., by Grinstead; dam, Josie C.	Pleasanton Stables, San Francisco.
Alexis, b. h., by Argyle; dam, Frissie	Garden City Stables, San José.
Amigo, b. g., by Joe Daniels	South Park Stables, San Francisco.

## SUMMARY.

Esperance (Goodman), 128	1
Onti Ora (Finn), 135	2
Guadalupe (J. Johnson), 135	3

Also ran: Alexis (130) and Amigo (125).

Time—3:22½.

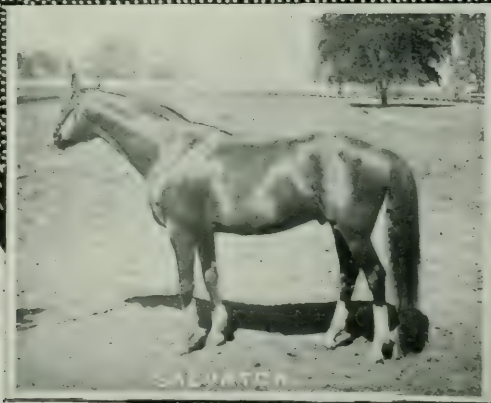
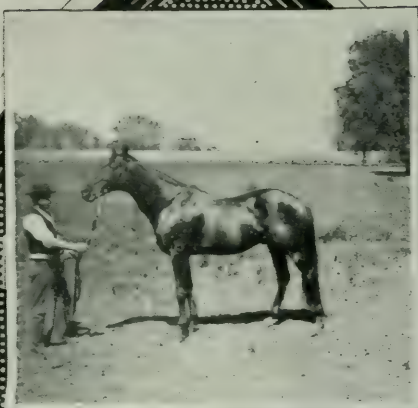
## SATURDAY, SEPTEMBER 14, 1895.

## RACE No. 44—RUNNING.

Purse, \$400. For maiden two-year-olds; of which \$75 to second and \$25 to third. Weights, ten pounds below scale. Beaten maidens that have not been placed 1, 2, 3, allowed five pounds. Five furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Longlady, b. f., by Major Ban; dam, Decoy Duck	Burns & Waterhouse, San Francisco.
Treachery, b. f., by Hanover; dam, Deceit	J. G. Brown & Co., St. Louis, Mo.
Carnation, ch. f., by Flambeau; dam, imp. Amalia	A. B. Spreckels, San Francisco.
Pansy, ch. f., by Three Cheers; dam, Spray	John Lodge, Sacramento.





SOME WORLD-RENOWNED STALLIONS OF RANCHO DEL PASO.



SUMMARY.	
Longlady (Donnelly), 105 .....	1
Treachery (Macklin), 105 .....	2
Carnation (Piggott), 105 .....	3
Pansy (Donahue), 105 .....	0

Time—1:02 $\frac{1}{4}$ .

#### RACE NO. 45—RUNNING.

The Autumn Handicap. For two-year-olds. A sweepstake of \$30 each, half forfeit, or \$10 if declared; with \$350 added; second to receive \$75. One mile. Value of stake, \$725.

Name and Pedigree of Horse.	By Whom Entered.
Lucrezia Borgia, ch. f., by imp. Brutus; dam, Ledette .....	Elmwood Farm, Milpitas.
Sam Leake, br. c., by Darebin; dam, Carrie C. ....	Burns & Waterhouse, San Francisco.
Elsie, ch. f., by Fellowcharm; dam, Elsie S. ....	Burns & Waterhouse, San Francisco.
Billie McCloskey, ch. c., by Joe Hooker; dam, Jessie R. ....	Pleasant Hill Stables, San Francisco.
Mercedes Filly, blk. f., by imp. Idalum; dam, Mercedes .....	A. B. Spreckels, San Francisco.
Bloomsbury, b. c., by Three Cheers; dam, by Langford .....	J. Gibson, Williams.
Heartsease, b. f., by imp. Kyrle Daly; dam, Extract. ....	J. C. Humphrey, San Francisco.
Instigator, b. c., by imp. Brutus; dam, Installation. ....	Elmwood Farm, Milpitas.

SUMMARY.	
Lucrezia Borgia (Hinrichs), 100 .....	1
Sam Leake (Donahue), 105 .....	2
Elsie (Donnelly), 90 .....	3
Also ran: Billie McCloskey (100), Mercedes Filly (95), Bloomsbury (120), Heartsease (110), and Instigator (118).	

Time—1:44.

#### RACE NO. 46—RUNNING.

Free handicap, for all ages. Purse, \$400; of which \$75 to second and \$25 to third. Winners at this meeting barred. One mile.

Name and Pedigree of Horse.	By Whom Entered.
McLight, ch. c., by McDuff; dam, Longalight. ....	J. H. Shields & Co., San Francisco.
Imp. Candid, blk. m., by Splendor; dam, imp. Canary .....	A. B. Spreckels, San Francisco.
Ike L, ch. c., by Major Ban; dam, Miss Flush .....	Garden City Stables, San José.
Peter the Second, b. c., by imp. Brutus; dam, Bonnie Jean .....	Elmwood Farm, Milpitas.
Claudius, b. c., by imp. Brutus; dam, Swayback .....	Elmwood Farm, Milpitas.
Duchess of Towers, br. f., by Algerine; dam, imp. Presto .....	Burns & Waterhouse, San Francisco.

SUMMARY.	
McLight (Macklin), 110 .....	1
Imp. Candid (Piggott), 95 .....	2
Ike L (E. Jones), 98 .....	3
Also ran: Peter the Second (90), Claudius (104), Duchess of Towers (97).	

Time—1:42.



## RACE No. 47—RUNNING.

Selling purse, \$400. For three-year-olds and upwards; of which \$75 to second and \$25 to third. Fixed value, \$1,000. Three pounds allowed for each \$100 to \$500, then two pounds for each \$50 to \$100. Non-winners, if beaten twice, allowed five pounds; four or more times, ten pounds. One mile.

Name and Pedigree of Horse.	By Whom Entered.
Capt. Skedance, b. g., by imp. Cyrus; dam, imp. Get-away	..... A. B. Spreckels, San Francisco.
Rear Guard, b. s., by Post Guard; dam, Alfonie Carter	..... George Rose, San Francisco.
Nebuchadnezzar, b. c., by imp. Brutus; dam, Gypsette	..... Elmwood Farm, Milpitas.
Navy Blue, b. g., by Blue Wing; dam, Bay Betty	..... A. B. Spreckels, San Francisco.
Mary S, b. m., by Duke of Montrose; dam, Ocean Wave	..... J. H. Shields & Co., San Francisco.

## SUMMARY.

Capt. Skedance (Piggott), 92	..... 1
Rear Guard (Sloan), 96	..... 2
Nebuchadnezzar (E. Jones), 89	..... 3

Also ran: Navy Blue (88) and Mary S (91).

Time—1:42.

## RACE No. 48—RUNNING.

Selling purse, \$400. For horses that have started and not won at this meeting; of which \$75 to second and \$25 to third. Fixed value, \$1,000. One pound off for each \$100 to \$500, then two pounds to \$100. Horses beaten once allowed three pounds; twice, five pounds; three or more times, seven pounds. Six furlongs.

Name and Pedigree of Horse.	By Whom Entered.
Tim Murphy, rn. g., by Kyrle Daly; dam, Maggie R Roadrunner, ch. h., by Joe Daniels; dam, Miss Hooker	..... White & Clark, San Francisco.
Gallant, b. c., by Fellowcharm; dam, Jennie Belshaw	..... G. W. Berry, San Francisco.
Warrago, b. m., by Warwick; dam, Phelma	..... A. B. Spreckels, San Francisco.
Amarino, b. s., by Kealer; dam, Amadine	..... Garden City Stables, San José.
Nervoso, ch. g., by imp. Brutus; dam, Nerva	..... R. Balintine, Sacramento.
	..... Elmwood Farm, Milpitas.

## SUMMARY.

Tim Murphy (Flynn), 108	..... 1
Roadrunner (Macklin), 104	..... 2
Gallant (Piggott), 113	..... 3

Also ran: Warrago (101), Amarino (105), and Nervoso (100).

Time—1:14½.

## MILK TEST.

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SACRAMENTO, September 12, 1895.

EDWIN F. SMITH, ESQ., *Secretary State Board of Agriculture*:

DEAR SIR: Herewith I submit tabulated results of the seven days' milk testing carried on by me, from September 5th to September 11th inclusive, at your direction.

The samples and weights were supplied me twice a day by Mr. Ward Hall, and it is upon these that my calculations are based.

The contest opened with twenty entries, but two of these, "Maud S" and "Lady Newham," were withdrawn; and, under the rules, the following failed to qualify and were dropped from the contest after the second day:

In the two-year-old class: "Desaree" (Jersey), owned by M. L. Eckles, produced but 1.196 pounds butter fat in two days, instead of 1.60 pounds, as required.

In the three-year-old class: "Alpha of Riverside" (Jersey), owned by P. J. Shields, produced but 1.958 pounds, instead of the required 2.06.

In the four-year-old class: "Rose Ann" (Durham), owned by P. H. Murphy, produced but 1.958 pounds, instead of the required 2.52; "Rebecca Egmond" (Holstein), owned by F. H. Burke, produced but 2.194 pounds, instead of the required 2.52.

In the five-year-old class: "Rosa Belle 8th" (Durham), owned by P. H. Murphy, produced but 2.775 pounds, instead of the required 2.98; "Olga of Yerba Buena" (Jersey), owned by H. Pierce, produced but 2.629 pounds; "Jennie of Yerba Buena" (Jersey), owned by H. Pierce, produced but 2.384 pounds; "Fidget 16th" (Durham), owned by Baden Live Stock Co., produced but 2.449 pounds.

In the two-year-old class: "Pansy" (Jersey), owned by H. Pierce, has first place; and "Bracelet 9th" (Durham), owned by the Baden Live Stock Co., second place. As explained in note at bottom of table, "Bracelet" produced more butter fat than "Pansy," but not enough to make up for difference in age, as allowed under the rules.

In the three-year-class: "Jersey Lily W" (Jersey), owned by T. Ward, has first place, with a record of 9.514 pounds butter fat; and "Carlotta S" (Jersey), owned by P. J. Shields, second, with a record of 9.065 pounds. In this connection I beg to call attention to the fact that "Jersey Lily W" tested 10 per cent butter fat on the first milking, but failed to go any higher than 5.8 per cent subsequently—a most remarkable circumstance. The composite test proves the detail daily work correct, so I am unable to explain this enormous difference.

In the four-year-old class: "Valentine" (Jersey), owned by H. Pierce, has first place, with 10.449 pounds butter fat; and "Josie" (Jersey), also owned by H. Pierce, second, with 9.637 pounds. In this case

"Valentine," being the younger cow, it is unnecessary to compute the age allowance.

In the five-year-old class: Imp. "Soypha" (Holstein), owned by F. H. Burke, was the only one to qualify, so has first place, with 10.807 pounds butter fat.

In the last two columns of the table will be found the average per cent and the results of the composite tests. By inspecting these columns you can judge of the accuracy of the work. All the pipettes, test bottles, and other apparatus used in the testing were calibrated and tested by me before acceptance. This was done in order to insure accuracy, and in order to enable me to vouch for the correctness of the test work.

The records of the cows in the test should not be taken as the best they can do, for many conditions were present to prevent the accomplishment of the best results. Some of these might be mentioned, as follows: Extremes of temperature to which the animals were subject in the open sheds; the disturbing influence of visitors about the pens; proximity of the sheds to the race track; change of drinking water. These and some other minor conditions tend to reduce the productive power of the animals below a point they are able to attain when under the influences they are accustomed to at home.

Before closing, I wish to add that we are indebted to Messrs. G. G. Wickson & Co., of San Francisco, and the Agricultural Department of the State University, who kindly loaned all the necessary apparatus and machinery needed for the testing.

Respectfully submitted.

ARNOLD V. STUBENRAUCH,  
Milk Tester.



# TABULATED RESULTS OF SEVEN DAYS' MILK TEST AT CALIFORNIA STATE FAIR, FROM SEPTEMBER 5th TO 11th INCLUSIVE, 1895.

Name of Cow.	Breed.	Owner.	Age.	Days.	Date of last Calving.	Time of Milking.	First Day.			Second Day.			Third Day.			Fourth Day.			Fifth Day.			Sixth Day.			Seventh Day.			Total Yield of Milk, in Pounds.	Total Yield of Butter Fat, in Pounds.	Equivalent of Butter on Basis of 80 Per Cent Fat, in Pounds.	Average Per Cent Butter Fat.	Composite Test Butter Fat, Per Cent.	Name of Cow.
							Pounds of Milk.	Per Cent of Butter Fat.	Yield of Butter Fat, in Pounds.	Pounds of Milk.	Per Cent of Butter Fat.	Yield of Butter Fat, in Pounds.	Pounds of Milk.	Per Cent of Butter Fat.	Yield of Butter Fat, in Pounds.	Pounds of Milk.	Per Cent of Butter Fat.	Yield of Butter Fat, in Pounds.	Pounds of Milk.	Per Cent of Butter Fat.	Yield of Butter Fat, in Pounds.	Pounds of Milk.	Per Cent of Butter Fat.	Yield of Butter Fat, in Pounds.	Pounds of Milk.	Per Cent of Butter Fat.	Yield of Butter Fat, in Pounds.						
Pansy	Jersey	H. Pierce	2	66		Morning.	11.500	5.5	.633	11.813	5.0	.591	11.375	5.2	.592	11.188	5.0	.559	11.688	5.0	.584	11.063	4.8	.531	11.313	4.9	.554	157.50	7.847	*9.800	5.0	5.0	.....Pansy.
						Evening.	10.938	5.4	.591	11.313	5.4	.611	11.125	4.8	.534	10.500	4.9	.515	10.813	4.7	.508	11.563	4.7	.543	11.375	4.4	.501						
Bracelet 9th	Durham	Baden Live Stock Co.	2	234	Aug. 2, 1895.	Morning.	14.750	3.0	.443	13.813	4.0	.553	13.063	4.0	.523	13.500	4.0	.540	14.313	3.9	.558	14.563	4.1	.597	14.750	3.7	.540	108.81	7.939	*9.924	4.0	4.0	.....Bracelet 9th.
						Evening.	14.250	4.5	.641	15.063	4.6	.693	13.688	3.9	.534	13.750	4.1	.564	14.125	4.1	.570	14.438	4.0	.578	14.750	4.0	.590						
Baden Gwynne	Durham	Baden Live Stock Co.	2	240	July 2, 1895.	Morning.	11.503	3.8	.439	13.375	3.6	.482	11.688	3.8	.444	12.000	3.8	.456	12.963	3.7	.446	11.875	4.0	.475	43.188	4.3	.567	182.25	7.168	8.000	3.9	4.0	.....Baden Gwynne.
						Evening.	14.125	4.0	.565	14.438	3.7	.534	15.063	4.2	.633	13.938	3.8	.530	12.750	4.0	.510	13.313	4.3	.572	12.875	4.0	.515						
Windward	Holstein	F. H. Burke	2	63	June 16, 1895.	Morning.	14.563	3.6	.524	16.063	3.4	.546	15.250	3.7	.584	15.813	3.6	.569	16.688	3.8	.634	14.563	3.2	.496	14.063	3.0	.422	213.38	7.215	9.019	3.4	3.4	.....Windward.
						Evening.	14.313	3.4	.487	15.938	3.1	.494	15.825	3.4	.531	15.938	3.7	.500	16.250	3.4	.553	14.000	2.9	.496	14.313	3.0	.429						
Carmenita	Jersey	P. J. Shields	2	248	Sept. 3, 1895.	Morning.	9.500	4.7	.447	10.188	4.0	.408	10.250	4.8	.492	10.500	4.3	.452	12.125	4.6	.558	12.875	4.3	.504	11.925	4.4	.512	157.13	6.883	8.004	4.3	4.3	.....Carmenita.
						Evening.	10.000	3.9	.390	10.375	3.8	.394	10.313	4.3	.443	11.125	4.4	.490	12.750	4.2	.556	12.750	4.7	.599	12.750	4.3	.548						
Desaree	Jersey	M. L. Eckles	2			Morning.	6.438	5.5	.354	3.188	7.4	.236	Failed to qualify.																				
						Evening.	2.875	6.0	.173	6.188	7.0	.435																					
Jersey Lily W.	Jersey	T. Ward	3	1	Aug. 6, 1895.	Morning.	10.063	10.0	1.006	11.875	4.5	.534	14.825	4.2	.614	13.250	4.8	.636	12.875	4.9	.631	13.313	5.5	.732	11.938	6.2	.621	180.63	9.614	11.802	5.4	5.3	.....Jersey Lily W.
						Evening.	9.250	5.8	.528	13.688	4.9	.671	13.750	4.8	.660	13.375	5.0	.669	13.375	5.5	.736	14.375	5.2	.744	14.000	5.2	.728						
Carlotta S.	Jersey	P. J. Shields	3	90	Aug. 6, 1895.	Morning.	12.063	5.7	.688	10.875	5.2	.566	12.438	4.8	.597	12.688	4.5	.571	14.875	5.0	.744	18.750	5.2	.975	12.625	5.4	.682	179.31	9.065	11.331	6.0	5.0	.....Carlotta S.
						Evening.	7.875	5.0	.394	11.813	4.3	.508	10.625	4.8	.510	13.750	4.8	.690	14.813	5.0	.741	14.125	5.7	.805	12.000	6.2	.624						
Alpha of Riverside	Jersey	P. J. Shields	3			Morning.	7.688	6.4	.492	9.125	4.9	.447	Failed to qualify.																				
						Evening.	9.750	5.9	.488	10.625	5.0	.531																					
Valentine	Jersey	H. Pierce	4	203		Morning.	10.688	6.1	1.004	18.188	4.5	.818	17.250	3.8	.656	17.875	4.3	.769	17.375	4.3	.747	15.375	4.2	.649	19.188	4.7	.902	299.13	10.449	13.061	4.4	4.2	.....Valentine.
						Evening.	15.938	4.7	.749	17.125	4.4	.754	16.563	4.3	.712	16.188	4.4	.712	15.438	4.3	.664	16.063	4.2	.675	16.875	3.8	.641						
Josie	Jersey	H. Pierce	4	280		Morning.	16.188	5.6	.851	15.313	4.8	.735	14.188	4.7	.667	14.125	4.8	.678	14.750	4.8	.708	13.938	4.6	.641	14.625	4.8	.702	107.38	9.037	12.046	4.9	4.8	.....Josie.
						Evening.	13.313	5.1	.679	13.750	4.8	.690	13.750	4.9	.674	13.875	5.0	.694	13.500	4.5	.698	13.313	5.0	.696	13.750	4.9	.674						
East Ann	Durham	P. H. Murphy	4			Morning.	13.313	3.2	.442	13.063	3.6	.470	Failed to qualify.																				
						Evening.	14.313	4.0	.573	13.500	3.5	.475																					
Rebecca Egmond	Holstein	F. H. Burke	4			Morning.	18.188	3.4	.618	10.250	3.6	.585	Failed to qualify.																				
						Evening.	15.750	3.6	.487	15.760	3.2	.504																					
Soypha (imp.)	Holstein	F. H. Burke	5			Morning.	28.438	2.8	.796	25.250	3.0	.758	25.750	3.1	.798	25.500	2.9	.740	25.938	3.0	.778	24.250	3.4	.825	22.625	3.7	.837	348.06	10.807	13.569	3.1	3.1	.....Soypha.
						Evening.	26.063	3.0	.782	25.625	2.8	.718	25.625	2.8	.718	24.625	2.8	.690	25.688	3.3	.848	21.888	4.0	.808	21.000	3.1	.651						
Roxa Belle 8th	Durham	P. H. Murphy	5			Morning.	21.875	3.0	.656	21.313	3.5	.746	Failed to qualify.																				
						Evening.	22.000	3.1	.682	20.938	3.3	.691																					
Maud S.	Jersey	P. J. Shields	5			Morning.	8.875	6.2	.350	8.813	6.0	.529	Withdrawn																				
						Evening.	9.125	6.6	.492																								
Edna of Yerba Buena	Jersey	H. Pierce	5			Morning.	13.188	5.7	.752	13.063	5.0	.653	Failed to qualify.																				
						Evening.	11.750	5.1	.569	12.500	5.0	.625																					
Jennie of Yerba Buena	Jersey	H. Pierce	5			Morning.	10.625	5.7	.606	11.750	6.0	.705	Failed to qualify.																				
						Evening.	10.250	5.2	.533	10.375	5.2	.549																					
Lady Newham						Morning.	6.875	4.8	.330	Withdrawn																							
Fidget 16th	Durham	Baden Live Stock Co.	5			Morning.	18.063	3.0	.542	19.188	3.0	.576	Failed to qualify.																				
						Evening.	18.375	3.0	.551	18.563	4.2	.786																					

\*In the two year-old class, "Bracelet" produced the most butter fat, but, under the rules she is compelled to produce .072 of an ounce of butter fat per day for each day she exceeds "Pansy" in age. As she ("Bracelet") is 151 days older than "Pansy," she should produce, in order to gain first place, .072 of a pound more butter fat than the latter. She produced but .115 of a pound more, consequently "Pansy" has first place and "Bracelet" second place.

ARNOLD V. STUBENRAUCH, Milk Tester.

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## AVERAGE DAILY YIELDS OF MILK AND FAT BY PREMIUM COWS AT STATE FAIRS, 1894. (Results for 1895 not yet available.)

From Stoll's "Dairy Calendar," 1896.

State.	Name of Cow.	Breed.	Milk— Pounds.	Fat— Pounds.	Fat— Per Cent.	Marketable Butter, in Pounds— Basis of 80 Per Cent Pure Fat.	Test Made At.
New York	Intze von H	Holstein	58.55	1.691	2.89	2.114	Fair grounds.
Maine		Jersey	48.68	2.190	4.50	2.738	Fair grounds.
Maine		Jersey	39.50	1.896	4.80	2.370	Fair grounds.
Maine		Holstein	43.68				Fair grounds.
Massachusetts	Weston Lily	Guernsey	43.50	2.150	4.94	2.690	Home.
Ohio	Very Much	Jersey	44.75	2.060	4.62	2.575	Home.
Ohio	Hilton Maid	Holstein	57.75	1.590	2.75	1.988	Home.
Ohio	Peterina 2d	Holstein	57.33	1.660	2.90	2.075	Home.
Indiana	Nabe 2d	Holstein	47.00	1.553	3.30	1.941	Fair grounds.
Indiana	Toltec's Jenet.	Jersey	26.75	1.453	5.43	1.817	Fair grounds.
<i>Over Three Years Old.</i>							
Illinois	Bulah Shawlan	Jersey	37.43	1.585	4.33	1.951	Fair grounds.
Illinois	Alline Clyde	Ayrshire	39.95	1.535	3.84	1.919	Fair grounds.
Illinois	Empress Josephine	Holstein	54.90	1.565	2.85	1.956	Fair grounds.
<i>Under Three Years Old.</i>							
Illinois	Kitty King	Jersey	29.60	1.485	5.02	1.856	Fair grounds.
Illinois	Luella 2d	Ayrshire	29.45	.845	2.88	1.056	Fair grounds.
Illinois	Parana A Kirk 6th	Holstein	17.00	.870	5.12	1.088	Fair grounds.
Wisconsin	Johanna 5th	Holstein	83.95	2.500	2.98	3.125	Home.
Wisconsin	Daisy	Jersey	40.15	2.420	5.95	3.025	Home.
Wisconsin	Schoone	Holstein	63.60	2.095	3.28	2.619	Home.
Wisconsin	Lena Pedro	Jersey	32.85	2.615	6.13	2.519	Home.
Iowa	Bulah Shawlan	Jersey	40.32	1.573	3.90	1.966	Fair grounds.
Iowa	Eurodna	Jersey	40.12	1.597	4.07	2.996	Fair grounds.
Iowa	Bontje P 2d Gerben.	Holstein	44.62	1.490	3.35	1.863	Fair grounds.
Nebraska	Geertje Jeding	Holstein	50.31	1.510	3.00	1.888	Fair grounds.
Nebraska	Lutska Isabell	Holstein	43.44	1.425	3.28	1.781	Fair grounds.
Nebraska	Nettie Glenn	Aberdeen-Angus	33.94	1.185	3.49	1.481	Fair grounds.
Nebraska	Queen	Jersey	24.50	1.160	4.72	1.450	Fair grounds.
California	Lady Woods	Jersey	38.58	2.636	6.74	3.283	Fair grounds.
Toronto, Canada	Eunice Clay	Holstein	65.00	1.590	2.45	1.988	Fair grounds.



## ANNUAL ADDRESS.

DELIVERED BEFORE THE STATE AGRICULTURAL SOCIETY OF CALIFORNIA, AT SACRAMENTO, SEPTEMBER 12, 1895.

By HON. J. W. MITCHELL, of Los Angeles.

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*Mr. President, Ladies and Gentlemen:*

In the beginning I cannot refrain from expressing the deep sense of appreciation I feel at the honor of being selected to deliver the annual address before your association. It is a distinction which I esteem more than I can tell, and is all the more gratifying when I am reminded, as I have been, that preceding me as orators of this occasion are the names of such distinguished citizens as Starr King, Henry Edgerton, Newton Booth, John P. Irish, M. M. Estee, and others equally well known, who have delivered addresses at your State Fair which have passed into the literature of California. These noted orators have spread the beauties of the Golden State before the world in the grace and gilding of happy speech, and have pictured the history of its development, the glories of its climate, and the wealth of its resources with a poetic imagery and rare felicity which I do not hope to equal, but can only attempt to emulate.

The greatest difficulty on such occasions is the selection of an apt theme that can be circumscribed within the limits of your patience and my time. But to-night, whatever may be the limitation, there seems but one subject commensurate with the importance of this environment and the week's incidents enacted here in new Sacramento, the capital of the State, and that is the State itself—California, its brief past, significant present, and alluring future. And it is most fitting at such times for our patriotism to be reminded of the incidents in our history that kindled State pride, of the resources which satisfy our material desires, and of the anticipations which bring contentment to our lot. And in doing this I prefer to speak with a voice of the optimist rather than of the pessimist, to reflect visions seen through a crystal rather than in a glass darkly, to intone a psalm rather than a dirge.

The history of California is the romance of a commonwealth. Its discovery in 1542 by the Portuguese pilot Cabrillo; the settlement by Spanish missionaries at San Diego in 1769; the missionizing of the Indians and the supremacy of the mission fathers to the independence of Mexico in 1822; the rule of the padres, succeeded by the pastoral reign of the dons; the advent of the gallant Fremont in 1844; the tragic story of the Donner party; the return of Fremont; the raising of the bear flag and the subsequent American occupation in 1846; the coming of the argonauts in 1849, and the admission of the State into the Union in 1850; the transition from mining to agriculture, and the various historical events which mark the period during which a community of shifting, adventurous spirits was wrought into an enduring State—all

furnish thrilling chapters in the story, which is as pregnant of hardships, explorations, and adventures as the early career of any of the older States beyond the mountains on the other side of the continent.

For instance, the landing at Plymouth, in Massachusetts Bay, of the one hundred English Puritans who came over from Holland in the Mayflower and laid the foundation of the old Bay State, finds its counterpart in the landing in San Diego Bay of Father Junipero Serra and his band of devout followers. New York tells as a marvel of history how a little fort built on Manhattan Island in 1614 was the germ of the greatest city in the Western Hemisphere and one of the greatest in the world. But this is not more wonderful than the birth and upbuilding of the great and unparalleled city of San Francisco, the germ of which was not planted until one hundred and sixty-two years thereafter, when, in 1776, the Presidio and the Mission were first settled by the mission friars. Virginia, the mother of States and statesmen, takes pride in that page of history whereon is recorded the romantic legend of how the courageous Captain John Smith was captured by the Indians and would have been put to death but for the interference of Pocahontas, the daughter of the Indian king, Powhattan. Equal to this is the narrative of how the Russian Rezanof, contrary to law, gained supplies for the starving colonies through the infatuation for him of the beautiful daughter of Arguella, the commandant of the Presidio. Their betrothal, his death while crossing Siberia, and hers while a nun at Benicia, as immortalized by Bret Harte, have made a story as famous as that of Virginia's Indian princess.

Thus, indeed, for every historical incident cherished by the older States can be furnished equally interesting ones; but they are old and familiar and are recalled only as tender memories of the past, which we will not dwell upon, but will pass to the pulsing present and promising future, with which all are most concerned.

The object of your Society, which is declared by law a State institution and its maintenance the State's tribute to agriculture, as stated by your constitution, is to encourage the cultivation of the soil and the general development of all the resources of the State; to foster every branch of mechanical and household art calculated to increase the comforts of home, and to extend and facilitate the various branches of mining. Truly, this is a stupendous task. Your labors comprehend a regard for all material essentials, and your jurisdiction embraces more than 158,000 square miles—a domain in which eleven other States of the Union, including such important ones as Maine, Massachusetts, Maryland, and Indiana, with an aggregate population of over eleven millions, could be placed, and there would be room for two or three European principalities.

And within this area are spreading fields of grain and hops; valleys dotted with orchards bearing almost every variety of fruit, and all the world demanding it; vineyards yielding more wine than all the rest of the United States, and while a comparatively new industry, its products are of a quality comparable with the wine-producing countries of Europe with their centuries of experience; vast reaches of forest which will provide lumber for many years to come; wool of the best, and sufficient for the clothing of all the people of the State; and milk and honey sufficient to feed the original children of Israel.

Besides our mines of gold and silver, which last year produced \$14,000,000, there is wondrous wealth of other mineral substances that

are mined on a large and profitable scale. Quicksilver, mined nowhere else on this continent, yields over a million dollars a year; borax, found only here and in Nevada, is worth from a half to three quarters of a million; macadam rock and rubble stone nearly half a million; clays for brick and pottery show a value of eight or nine hundred thousand dollars; asphaltum and bituminous rock are worth from three hundred to four hundred thousand dollars; granite over half a million; salt a quarter of a million, and limestone three hundred thousand dollars. In addition to these we mine also antimony, asbestos, chrome, coal, copper, gypsum, lead, magnesite, marble, mineral paint, onyx, paving blocks, platinum, slate, etc. Mineral waters, natural gas, and petroleum are other important substances in the realm of mineral industry. In petroleum we are gradually but surely increasing our output as new fields and new wells are opened. Within the city limits of Los Angeles alone the daily product of oil is now estimated to be as much as three thousand barrels.

But while we have such marvelous and incomparable wealth of field, orchard, and mine, it cannot but be admitted that our products from these sources are not yielding their full measure to the producer. Last year was produced 22,000,000 bushels of wheat, but the price to the farmer for the surplus was lower than ever before, and I observe that it has been estimated that it cost more to produce the wheat crop than the amount realized from it. And the President of your Society, in his report to the Governor, suggests the diminution of the area planted to wheat, and advises the farmer to diversify his products.

The fruits from our bearing orchards and the wines from our vineyards find only a sluggish market, and are not yielding the full fruition of expectations. While the mining interests are in a more prosperous and flourishing condition than for twenty years past, still there is a world of wealth waiting further development. Our manufacturing interests grow only in pace with an actual home demand, and competition in manufactures is retarded by the too great cost of fuel and power. This is the condition of our leading resources.

The question is, what is the remedy for these incidental evils? I answer it is this, and this only: Increased population and markets. And both can be obtained by the accomplishment of three great purposes: First, the completion of the Nicaragua Canal; second, more direct consideration by the Federal Government; third, the conversion of our water power into electrical energy.

The question of interoceanic communication across the strip of land that connects North and South America is a problem that has received prolonged consideration from the maritime nations of the earth; and to its solution the ablest minds have applied the knowledge of the best engineering skill of the world. That such a canal is practicable is not now disputed, but that the end of the nineteenth century is at hand and this great enterprise has hardly begun, and is not assured by the adoption of any specific plan for its construction, is not only surprising, but a reflection upon the progress of modern times.

Of the many plans that have been suggested to artificially connect the two oceans at a point where nature had almost united them, it is now generally conceded that the Nicaraguan route is the most practical. Millions upon millions have been spent on the abandoned works at Panama, and there seems no probability of a resurrection of this scheme.



The importance of the consummation of this enterprise to the Pacific Coast, and the benefits that will accrue to California, it is now impossible to realize in detail. Suffice it to state the distance in miles between this seaboard and two important commercial ports of the world that would be saved in oceanic travel. From San Francisco to New York it would be 9,884 miles, and to Liverpool 6,996 miles. The transcontinental traffic alone from the Pacific Coast is estimated at nearly seven million tons per annum. To the fruit-growers of the State it would mean more than two millions of dollars per annum in the reduction of freight rates, and to the farmer \$2 per ton on all the wheat exported.

These are startling figures and open up considerations that cannot be dwelt upon now; but one thing is certain, the people of this whole country are convinced of the importance and feasibility of this canal, and favor its control and construction by the Federal Government. They will not approve of further temporizing by Congress or the Executive in concluding plans for its completion, and the next Congress will not be excused for inaction, particularly if the commission which has recently examined the works and harbors of this route report favorably upon the plan. And it matters not whether the cost be one hundred or two hundred millions. What is wanted is the canal at any price. It will redeem the coast from the complaints of lack of competition and burdensome freight rates in transportation, and this relief in itself will justify the outlay.

This brings forcibly to mind the need to the State of greater consideration by the Federal Government. The Pacific Coast States were added to the national domain with less cost of life and money than any other acquired since the union of States, and no other single section has contributed as much to the nation's wealth. When the Union was in the throes of civil strife, its credit impaired and dissolution imminent, it was the gold of California that helped to furnish men and means for its perpetuation.

The total gold product added to the assets of the country is more than \$1,300,000,000. In direct taxation it has been estimated that California has contributed about \$300,000,000 to the Federal Treasury, and has only received, in direct appropriations for rivers and harbors and public buildings, an amount less than \$15,000,000. The whole tendency is toward the centralization of power at Washington and in the East, and of course, the more of this the further we get from the seat of authority.

I deem it an irreparable misfortune to the State to have as the Chief Executive of the nation one who has no personal acquaintance with the conditions and resources of the Pacific Coast; and that no member of the cabinet has ever been selected in California is an injustice that condemns the wisdom and statesmanship of recent Executives. Without any desire to reflect upon the past or present able representatives in Congress, I maintain that a bold and aggressive demand should be made at Washington for a more just and equitable regard in all things, and this insistence should be backed by the whole press and people. Our needs are obvious: A defenseless seacoast of seven hundred miles should be protected—not because it is the coast of California, but because it is the western seaboard of the nation, and its harbors are its gateways. Independent bases of supplies and factories for the manufacture of implements and munitions of war should be established, public buildings sufficient to accommodate the expanding Federal business should be

erected, and our rivers and harbors improved, and the latter increased wherever practicable. And a little of the paternalism that has been lavished on the Eastern States, while not desired as a principle, would be acceptable as an equalizing process.

The third and most important essential to the future development of the resources and industries of the State is the converting of its wasted water power to electrical energy. The application of the waters of the American River and the turning of the switch at Folsom, which applied electric power to Sacramento, is an event as important and significant to this period as the finding of gold by Marshall to the epoch which that incident created. The electric carnival here at Sacramento, on the 9th day of September, 1895—the forty-fifth anniversary of the admission of California into the Union—has furnished an object-lesson that foretells a marvelous future. It marks a turning point in the history of scientific development; it advertises to the world that California is in the van of progressive science, and is the first to demonstrate on a large scale long distance transmission of electric force.

The Eastern States and Europe were yet involved in theory and speculation, and the scientific periodicals and electrical engineers were watching and waiting results of experiments at Niagara, while almost unnoticed the young State of California leaped at a bound to successful accomplishment. Here on the American River—significant name—where gold was first discovered, theory has been generated into fact and California enterprise grasped electrical transmission and gave it concrete expression. Mighty engine of modern science, what may it not ultimately accomplish? Wherever water falls from the mountains to the valleys is a power awaiting development. It only needs to be harnessed, as has been done at Folsom, to give the cities and towns of the plains light, heat, and power.

The Sacramento, Yuba, Mokelumne, Stanislaus, Tuolumne, Merced, San Joaquin, Kings, and Kern Rivers can all be utilized. What Sacramento has obtained from the American River Redding can get from the Sacramento, Marysville from the Yuba, Lodi from the Mokelumne, Stockton from the Stanislaus, Modesto from the Tuolumne, Merced from the Merced, Fresno from the San Joaquin, and Bakersfield from the Kern, and all of Southern California from its rivers, reservoirs, and cañons, as has already been done for Pomona, Ontario, and Riverside.

The configuration of the country makes the utilization cheap and the transmission easy, and power can be generated to supply all the lights, run all the street cars and locomotives, and drive all the machinery of every kind and description needed in the State, and the waters which generate this force will have still a more beneficent use, which utilization for obtaining power makes easier of accomplishment. After turning the dynamos which drive the wheels of distant cars and factories, they are still available for irrigation; already diverted, they are ready to be conducted over the plains to fructify the soil, give sap to the fruit trees, and fragrance to the rose. The water that irrigates the field may be the same that propels the car which transports the crop to market, that turns the mill, grinds the grain, and heats the oven which bakes the bread. And the housewife may ply her evening care by a lamp fed by the same stream, while the carman, miller, and baker perform their tasks under the kindly gleam from the same source. What rich and varied possibilities open for California, now that science has welded

into one productive force the peerless climate, and bounteous soil, and the limpid streams that gush from the mountains, only the imagination can foretell. I will not dwell upon it. It would seem that Aladdin and his lamp have come again.

And, indeed, Californians everywhere should be infinitely grateful that this garden spot has been left to them and theirs; that it was not pre-empted long and long ago by the teeming millions of the overpopulated countries of Asia, whose civilization, such as it is, antedates ours thousands of years. And they should be deeply thankful that this new era is opening before them. For when its possibilities are realized in the sisterhood of States California will rise like an Amazon, and standing, her feet resting amid the fruits and flowers of the south land below the Tehachapi, her waist girdled by the plenty of her central valleys, her head among the clouds of her lofty mountains of the north, with one jeweled hand she will beckon the world east of her mountain bulwarks, and with the other direct the commerce of the Orient, while emblazoned on her shield will be, not the legend "I will," but "I am."

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## VALUES OF FARM PRODUCTS, WAGES PAID FOR FARM AND SKILLED LABOR, AND LAND VALUES,

IN THE VARIOUS COUNTIES OF CALIFORNIA.

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For the purpose of obtaining such data as would tend to show the actual condition of the farming community of California, the State Board of Agriculture sent some sixteen hundred circulars, containing queries relating to values, to every township in the State.

As a condensation of the replies received, we submit the following tabulation, which will show at a glance the different prices of the various products on the farm, wages for skilled and unskilled labor, as well as values of improved and unimproved land on December 1st of the past three years:



## AVERAGE VALUE OF FARM PRODUCTS ON DECEMBER 1, 1893-4-5.

County.	Wheat. Per Cental.			Oats. Per Cental.			Rye. Per Cental.		
	1893.	1894.	1895.	1893.	1894.	1895.	1893.	1894.	1895.
Amador.....	\$1 13	\$0 98	\$1 10	\$1 25	\$1 10	\$1 05	-----	-----	-----
Alpine.....	1 25	1 10	1 00	1 25	1 12	1 00	-----	-----	-----
Alameda.....	1 15	95	95	1 15	98	86	\$0 90	\$0 90	\$0 80
Butte.....	90	75	81	90	85	90	-----	-----	-----
Colusa.....	96	77	85	-----	-----	-----	-----	-----	-----
Calaveras.....	1 50	1 50	1 40	1 60	1 55	1 55	-----	-----	-----
Contra Costa.....	1 20	1 20	1 15	1 20	1 20	1 30	-----	-----	-----
Del Norte.....	1 50	1 50	1 50	1 30	1 20	1 00	1 00	1 00	1 00
El Dorado.....	1 35	1 25	1 25	1 75	1 75	1 50	1 40	1 40	1 25
Fresno.....	80	70	80	-----	-----	-----	-----	-----	-----
Glenn.....	80	70	80	-----	-----	-----	-----	-----	-----
Humboldt.....	1 40	1 40	1 35	1 35	1 25	1 00	1 50	1 50	1 50
Inyo.....	1 35	1 25	1 20	1 75	1 90	1 40	-----	-----	-----
Kern.....	1 15	1 06	95	1 40	1 40	1 15	1 50	1 50	1 60
Kings.....	80	78	75	-----	-----	-----	-----	-----	-----
Lake.....	95	90	80	90	90	80	-----	-----	-----
Lassen.....	1 10	90	85	1 10	1 15	95	1 05	90	85
Los Angeles.....	90	80	80	-----	-----	-----	1 00	90	90
Mendocino.....	1 25	1 15	90	1 30	1 20	95	-----	-----	-----
Madera.....	90	82	83	-----	-----	-----	-----	-----	-----
Modoc.....	1 00	95	95	1 25	1 25	1 20	1 25	1 25	1 15
Mono.....	2 00	2 00	1 75	2 50	2 00	1 75	3 00	3 00	3 00
Mariposa.....	-----	-----	-----	-----	-----	-----	-----	-----	-----
Monterey.....	1 00	1 00	95	1 00	1 10	95	-----	-----	-----
Napa.....	1 20	1 05	1 00	1 20	1 00	90	-----	-----	-----
Orange.....	90	90	90	1 15	1 15	1 15	1 05	1 05	1 05
Placer.....	1 00	1 00	1 00	-----	-----	-----	-----	-----	-----
Riverside.....	1 00	1 00	95	-----	-----	-----	-----	-----	-----
Sacramento.....	90	80	90	1 50	1 50	1 10	-----	-----	-----
San Benito.....	92	80	90	1 10	1 15	1 05	-----	-----	-----
Shasta.....	1 50	1 25	1 25	1 25	1 00	1 00	-----	-----	-----
Santa Clara.....	1 00	1 00	1 00	80	80	90	80	80	90
San Bernardino.....	1 10	85	75	1 00	90	90	-----	-----	-----
Sonoma.....	1 10	1 05	98	1 20	1 15	85	1 00	1 00	1 00
Santa Cruz.....	1 00	80	80	1 10	1 00	90	-----	-----	-----
San Luis Obispo.....	90	85	75	90	90	70	-----	-----	-----
Santa Barbara.....	98	70	75	1 15	80	65	90	70	65
Sutter.....	1 00	95	80	-----	-----	-----	-----	-----	-----
San Mateo.....	1 00	90	1 00	1 00	90	75	-----	-----	-----
Solano.....	96	80	90	-----	-----	-----	-----	-----	-----
Siskiyou.....	95	80	80	1 00	1 00	1 00	1 50	1 10	1 00
San Joaquin.....	1 10	1 00	95	-----	-----	-----	1 25	1 10	95
Stanislaus.....	95	92	96	72	76	76	90	90	70
San Diego.....	1 25	1 15	1 10	1 40	1 30	95	1 85	1 75	1 50
Tuolumne.....	1 40	1 30	1 40	2 25	2 00	2 00	-----	-----	-----
Tehama.....	65	65	80	80	80	90	-----	-----	-----
Trinity.....	2 00	1 75	1 50	2 00	2 00	1 50	2 00	1 75	1 60
Tulare.....	1 00	75	85	80	75	70	-----	-----	-----
Ventura.....	1 25	1 00	75	1 30	1 20	1 00	-----	-----	-----
Yolo.....	90	76	92	-----	-----	-----	-----	-----	-----
Yuba.....	2 00	1 75	1 40	1 65	1 60	1 40	-----	-----	-----

## AVERAGE VALUE OF FARM PRODUCTS—Continued.

County.	Barley. Per Cental.			Hay. Per Ton.			Hops. Per Pound.		
	1893.	1894.	1895.	1893.	1894.	1895.	1893.	1894.	1895.
Amador.....	\$1 03	\$0 93	\$0 83	\$10 00	\$11 00	\$8 00	\$0 08	\$0 07	\$0 05
Alpine.....				8 00	8 00	7 00			
Alameda.....	95	81	65	10 00	9 00	8 00	05	05	04
Butte.....	80	75	70	10 00	9 00	8 00	15	10	06
Colusa.....	87	73	65	8 50	8 50	7 50			
Calaveras.....	1 35	1 35	1 30	20 00	20 00	19 00			
Contra Costa.....	70	80	55	10 00	8 00	8 00			
Del Norte.....	1 00	1 00	1 00	10 00	9 50	9 00			
El Dorado.....	1 30	1 20	1 05	16 00	15 00	12 00			
Fresno.....	60	75	60	18 00	18 00	17 00			
Glenn.....	80	65	70	8 00	7 50	6 00			
Humboldt.....	1 25	1 25	95	10 00	9 00	8 50			
Inyo.....	1 55	1 50	1 40	10 00	8 00	6 00			
Kern.....	98	96	80	9 00	10 00	8 00			
Kings.....	60	70	50	7 50	8 00	6 00			
Lake.....	90	80	75	10 00	10 00	8 00	15	10	07
Lassen.....	90	90	80	5 00	4 00	3 50			
Los Angeles.....	70	90	65	8 00	11 00	9 00			
Mendocino.....	1 10	1 00	85	10 00	9 00	8 00	14	09	05½
Madera.....	40	50	50	8 00	10 00	8 00			
Modoc.....	80	80	80	5 00	5 00	5 00			
Mono.....	2 50	2 00	1 75	7 00	6 00	5 00			
Mariposa.....				15 00	15 00	20 00			
Monterey.....	90	75	90	10 00	9 00	8 00			
Napa.....	1 00	90	60	10 00	9 50	9 00	10	08	06
Orange.....	1 00	1 00	60	6 00	6 00	6 00			
Placer.....	90	80	80	12 00	14 00	10 00	05	05	04
Riverside.....	75	85	70	8 00	10 00	8 00			
Sacramento.....	75	75	60	9 00	9 00	8 00	15	05½	04
San Benito.....	62	58	56	7 00	8 00	7 50	10	06	08
Shasta.....	1 25	1 00	1 00	15 00	15 00	12 00			
Santa Clara.....	85	85	65	9 00	9 00	9 50			
San Bernardino.....	85	85	60	16 00	12 00	10 00			
Sonoma.....	95	85	70	12 00	9 00	8 00	11	07	06
Santa Cruz.....	75	65	60	12 00	10 00	9 00	14	11	07
San Luis Obispo.....	85	90	60	9 00	12 00	7 00			
Santa Barbara.....	65	70	50	7 50	9 00	8 00			
Sutter.....	80	80	75	12 00	8 00	9 00			
San Mateo.....	75	65	55	8 00	7 00	7 00			
Solano.....	70	70	60	10 00	9 00	7 00			
Siskiyou.....	1 20	1 20	1 00	9 00	8 50	9 00	07	07	06
San Joaquin.....	80	65	60	9 00	8 00	6 00			
Stanislaus.....	90	95	65	10 00	11 00	7 00			
San Diego.....	80	1 00	80	15 00	12 00	8 00			
Tuolumne.....	1 50	1 00	1 00	12 00	20 00	15 00			
Tehama.....	75	75	75	7 00	8 00	7 00			
Trinity.....				15 00	11 00	12 00			
Tulare.....	80	60	50	10 00	8 00	6 00			
Ventura.....	85	1 10	65	10 00	17 00	9 00			
Yolo.....	90	75	65	13 00	10 00	8 00			
Yuba.....	1 40	1 35	1 10	20 00	19 00	18 00			

## AVERAGE VALUE OF FARM PRODUCTS—Continued.

County.	Hogs—Fat. Per Pound.			Hogs—Stock. Per Head.			Steers—Fat. Per Pound.		
	1893.	1894.	1895.	1893.	1894.	1895.	1893.	1894.	1895.
Amador.....	\$0 04½	\$0 04	\$0 03½	\$4 00	\$3 50	\$3 00	\$0 04½	\$0 04½	\$0 04
Alpine.....	04	04¼	03¾	3 50	3 50	3 00	05	04½	04
Alameda.....	05	04	03½	6 00	5 00	3 00	05½	06	05
Butte.....	05	04½	03	2 50	2 00	2 00	04½	05½	05
Colusa.....	04½	04¼	03	3 00	3 00	2 50	05	05	05
Calaveras.....	06	05	04	5 00	5 00	5 00	05	05	06
Contra Costa.....	04½	04	03	3 00	3 00	2 00	04	04	05
Del Norte.....	04	04	03½	4 50	4 50	4 00	04	04	03
El Dorado.....	05½	05	05	4 50	3 00	4 00	05	05	05
Fresno.....	04	03½	03	4 00	3 00	4 00	04	04	04½
Glenn.....	04½	04¾	03	3 50	3 00	3 00	04½	04½	04½
Humboldt.....	04½	04	02½	4 00	4 00	3 00	04½	04	03½
Inyo.....	07	07	05½	6 00	7 00	4 00	04	04	05½
Kern.....	05½	04½	03½	4 50	4 00	3 50	03½	03½	04
Kings.....	05	04	03	4 00	4 00	4 00	04½	04	04½
Lake.....	03½	03	02½	2 00	2 00	1 75	04	04	05
Lassen.....	04	04	02½	3 50	3 50	2 00	04	04	04
Los Angeles.....	04	05	04	5 00	4 00	4 00	02½	02½	03
Mendocino.....	04	04½	03	3 50	3 00	2 50	04½	04½	04½
Madera.....	04	05	04	3 00	3 00	3 00	04	04	04
Modoc.....	03½	04	03½	3 00	3 00	2 00	04	04	04½
Mono.....	07	07	06	5 50	5 00	3 00	04	04½	04½
Mariposa.....	04	04	03½	1 50	1 50	1 00	04	04	05
Monterey.....	06	04½	03½	5 00	4 00	3 00	05	04¼	05
Napa.....	05	04½	04	4 00	3 00	3 00	05	05	04½
Orange.....	04	04	03¼	4 00	4 00	4 00	03	03	02¾
Placer.....	04½	05	05	3 00	3 00	3 00	04	04	04
Riverside.....	03½	04½	05½	5 00	4 00	3 00	03¼	03	02½
Sacramento.....	04½	04½	03¼	3 00	3 00	2 75	05	05¾	04½
San Benito.....	04½	04	02¾	4 50	5 00	5 50	04	04½	03
Shasta.....	05	04½	04	4 00	4 00	3 00	04	04½	04
Santa Clara.....	03½	03½	04½	3 00	3 00	2 50	03½	03½	05
San Bernardino.....	04	04½	05	3 00	3 00	3 00	03	02¼	02½
Sonoma.....	04¾	04	03½	4 00	3 00	2 50	04½	04½	04
Santa Cruz.....	04½	04½	04½	4 00	3 75	3 75	05	05½	05
San Luis Obispo.....	03	04	03	3 00	3 00	2 50	04½	04	04½
Santa Barbara.....	06	04½	02½	5 00	4 50	2 50	03½	03	03
Sutter.....	05	04	03	4 00	3 00	2 00	05	04¾	04½
San Mateo.....	04½	04	03	4 00	3 00	2 50	05	04	05
Solano.....	04½	04	03½	3 00	3 50	2 00	05	05½	05
Siskiyou.....	05½	05	04	3 50	3 00	3 00	04¼	04	04
San Joaquin.....	04½	04½	03½	4 00	3 50	2 50	05	05	05
Stanislaus.....	04½	04½	03	4 00	4 00	3 50	03½	03½	03½
San Diego.....	05	04½	03	4 00	4 00	4 00	03	03	03
Tuolumne.....	05	05	04	5 00	4 00	3 50	04	04	06
Tehama.....	04	04	02¾	4 00	3 00	2 00	04	04	05
Trinity.....	06	06	05				05	05	04½
Tulare.....	04¾	04¼	03	3 50	3 00	2 50	05	04	04
Ventura.....	04¾	05	03¼	4 00	5 00	3 00	02½	02¼	02½
Yolo.....	04¾	04½	03	4 50	5 00	3 00	04	04½	04
Yuba.....	05	04	04	3 50	3 50	3 50	05	04	05½



## AVERAGE VALUE OF FARM PRODUCTS—Continued.

County.	Sheep—Market. Per Pound.			Sheep—Stock. Per Head.			Milch Cows. Per Head.		
	1893.	1894.	1895.	1893.	1894.	1895.	1893.	1894.	1895.
Amador.....	\$0 04½	\$0 04	\$0 04½	\$1 80	\$1 50	\$1 30	\$25 00	\$22 00	\$21 00
Alpine.....	05	04½	04	2 50	2 00	1 50	25 00	22 00	20 00
Alameda.....	04½	05	04	3 50	3 50	2 00	30 00	32 00	36 00
Butte.....	03	02¼	02	1 25	1 00	1 00	25 00	22 00	22 00
Colusa.....	04	04	04	2 00	2 00	2 00	30 00	25 00	30 00
Calaveras.....	03	07	05	2 50	2 50	2 00	30 00	30 00	30 00
Contra Costa.....	05	05	04	2 50	2 50	2 50	25 00	25 00	30 00
Del Norte.....	04½	04½	04	1 50	1 50	1 50	25 00	20 00	18 00
El Dorado.....	05¾	05	04¾	2 00	2 00	1 75	25 00	25 00	20 00
Fresno.....				1 50	1 50	1 00	30 00	25 00	30 00
Glenn.....	03½	03	03	1 50	1 25	1 25	25 00	20 00	20 00
Humboldt.....	04½	04	02½	1 50	1 50	1 00	35 00	30 00	25 00
Inyo.....	05½	05	05	1 50	1 50	1 25	30 00	28 00	25 00
Kern.....	03½	03½	03½	1 75	1 50	1 25	28 00	25 00	25 00
Kings.....	03½	03	03	2 00	1 50	1 50	30 00	25 00	30 00
Lake.....	05	04	03	2 50	2 00	1 50	20 00	18 00	15 00
Lassen.....	04	04	03½	1 25	1 00	1 00	18 00	18 00	15 00
Los Angeles.....	08	06	05	2 00	2 00	2 00	40 00	35 00	35 00
Mendocino.....	05	04½	04½	1 75	1 50	1 50	28 00	25 00	25 00
Madera.....	05	04	03	2 00	2 00	2 00	25 00	20 00	25 00
Modoc.....	04	04	04	3 00	2 00	1 50	20 00	18 00	20 00
Mono.....	08	07	05	2 50	2 00	1 50	30 00	28 00	30 00
Mariposa.....							20 00	20 00	25 00
Monterey.....	05½	05	05	1 50	1 50	1 50	22 00	18 00	20 00
Napa.....	04½	05	04¼	2 50	2 00	2 00	20 00	25 00	20 00
Orange.....	06	05	04	2 50	1 50	1 25	35 00	35 00	35 00
Placer.....	03	03	03				25 00	25 00	20 00
Riverside.....	03	02½	02½	2 50	1 75	1 50	40 00	35 00	35 00
Sacramento.....				1 50	1 25	1 25	25 00	25 00	25 00
San Benito.....	04½	05¼	05½				20 00	25 00	30 00
Shasta.....	04	04	04	1 75	1 00	1 00	25 00	25 00	25 00
Santa Clara.....	04	04	05	2 00	2 00	1 75	35 00	35 00	30 00
San Bernardino.....	02	02	01¾	2 00	1 00	1 00	35 00	30 00	30 00
Sonoma.....	06	05	04	2 00	2 00	1 50	25 00	20 00	20 00
Santa Cruz.....	06½	06	04½	1 50	1 50	1 25	25 00	25 00	25 00
San Luis Obispo.....	05½	04½	04½	2 50	2 00	1 50	26 00	19 00	20 00
Santa Barbara.....	05½	04½	03	2 50	2 00	1 50	30 00	25 00	25 00
Sutter.....	03	02½	02¾	1 80	1 50	1 50	25 00	20 00	30 00
San Mateo.....	03	03	02	2 00	1 50	1 50	25 00	25 00	25 00
Solano.....	05	05	04	2 00	1 75	1 50	30 00	25 00	25 00
Siskiyou.....	06	06	05	2 50	2 00	1 50	25 00	25 00	25 00
San Joaquin.....	04	03½	03	2 00	1 50	1 50	50 00	30 00	35 00
Stanislaus.....	03½	03	04	1 00	1 25	1 25	30 00	25 00	25 00
San Diego.....	04	04	03	1 75	1 50	1 50	30 00	25 00	25 00
Tuolumne.....				2 50	2 00	2 00	30 00	30 00	25 00
Tehama.....	04	04	05	1 50	1 30	1 25	20 00	20 00	25 00
Trinity.....							30 00	25 00	25 00
Tulare.....	03	03	02	2 50	1 50	2 00	35 00	30 00	25 00
Ventura.....	02½	02½	02	1 50	1 25	1 15	30 00	20 00	30 00
Yolo.....				1 25	1 25	1 25	30 00	30 00	25 00
Yuba.....				2 00	3 00	2 00	35 00	35 00	40 00

## AVERAGE VALUE OF FARM PRODUCTS—Continued.

County.	Chickens. Per Dozen.			Eggs. Per Dozen.		
	1893.	1894.	1895.	1893.	1894.	1895.
Amador.....	\$4 00	\$3 50	\$3 50	\$0 30	\$0 26	\$0 28
Alpine.....	4 00	3 50	3 50	40	35	30
Alameda.....	3 50	4 00	4 00	30	30	30
Butte.....	3 50	3 00	3 00	22	20	25
Colusa.....	4 00	3 50	3 50	28	25	26
Calaveras.....	4 00	4 00	4 00	30	25	25
Contra Costa.....	4 50	4 50	4 25	30	40	35
Del Norte.....	3 50	3 50	3 50	20	20	20
El Dorado.....	4 50	4 00	4 00	30	25	30
Fresno.....	3 00	3 00	3 00	15	15	25
Glenn.....	3 50	3 00	2 50	25	20	20
Humboldt.....	3 50	3 50	3 50	20	20	20
Inyo.....	5 00	5 00	4 50	27	27	27
Kern.....	4 00	4 00	3 50	20	20	25
Kings.....	4 00	3 00	3 00	25	20	20
Lake.....	3 00	2 50	2 00	15	15	12½
Lassen.....	3 50	3 50	3 00	25	25	20
Los Angeles.....	4 00	4 00	4 00	20	20	20
Mendocino.....	3 50	3 50	3 00	25	25	20
Madera.....	3 00	4 00	4 00	20	20	20
Modoc.....	2 50	2 00	2 00	25	20	20
Mono.....	6 00	6 00	6 00	36	36	36
Mariposa.....	3 50	3 50	3 50	20	20	25
Monterey.....	4 50	4 50	4 00	25	25	20
Napa.....	4 00	4 50	4 00	25	25	25
Orange.....	3 50	3 50	3 50	25	25	20
Placer.....	5 50	5 00	5 00	30	30	30
Riverside.....	4 50	4 00	4 00	25	25	20
Sacramento.....	4 00	3 50	4 00	25	25	25
San Benito.....	3 75	3 25	3 00	13	16	20
Shasta.....	3 50	3 00	3 00	25	25	25
Santa Clara.....	3 50	3 50	4 00	25	25	35
San Bernardino.....	4 00	5 25	4 50	30	40	30
Sonoma.....	4 50	4 00	4 00	30	25	25
Santa Cruz.....	4 50	4 50	4 00	20	15	15
San Luis Obispo.....	3 50	3 50	3 00	25	25	22
Santa Barbara.....	3 00	2 50	3 50	25	25	20
Sutter.....	3 50	3 50	3 00	30	30	25
San Mateo.....	3 00	3 50	3 00	20	20	20
Solano.....	4 50	4 00	4 50	35	33	28
Siskiyou.....	3 00	3 00	4 00	30	30	30
San Joaquin.....	4 00	4 00	3 50	30	30	30
Stanislaus.....	5 00	4 00	4 00	25	25	25
San Diego.....	4 00	4 00	4 00	25	25	25
Tuolumne.....	3 00	3 00	3 00	40	40	40
Tehama.....	4 00	3 00	3 00	25	25	25
Trinity.....	6 00	6 00	4 50	25	25	20
Tulare.....	4 50	3 50	3 00	30	25	25
Ventura.....	4 00	3 50	3 50	20	20	25
Yolo.....	5 00	4 00	3 50	35	30	30
Yuba.....	3 00	3 50	3 00	33	33	33

AVERAGE WAGES OF FARM HANDS, BLACKSMITHS, AND CARPENTERS  
ON DECEMBER 1, 1893-4-5.

County.	Farm Hands. Wages per Month, with Board.			Farm Hands. Wages per Month, with- out Board.			Farm Hands. Wages per Day During Harvest, with Board.		
	1893.	1894.	1895.	1893.	1894.	1895.	1893.	1894.	1895.
Amador.....	\$21 00	\$20 00	\$20 00	\$30 00	\$30 00	\$30 00	\$1 75	\$1 60	\$1 40
Alpine.....	29 00	28 00	26 00	50 00	50 00	50 00	1 50	1 50	1 25
Alameda.....	28 00	28 00	23 00	38 00	36 00	33 00	1 50	1 25	1 25
Butte.....	30 00	28 00	23 00	45 00	40 00	33 00	2 00	1 75	1 50
Colusa.....	30 00	25 00	23 00	40 00	35 00	30 00	2 50	1 50	2 00
Calaveras.....	28 00	23 00	20 00	35 00	30 00	30 00	2 00	1 50	1 50
Contra Costa.....	25 00	20 00	18 00	40 00	35 00	30 00	2 00	1 50	1 50
Del Norte.....	30 00	30 00	25 00	45 00	45 00	40 00	2 00	1 50	1 50
El Dorado.....	25 00	20 00	20 00	35 00	30 00	30 00	1 50	1 50	1 25
Fresno.....	30 00	25 00	20 00	40 00	35 00	30 00	1 50	1 50	1 25
Glenn.....	30 00	25 00	20 00	40 00	35 00	30 00	1 50	1 50	1 50
Humboldt.....	25 00	25 00	20 00	35 00	35 00	30 00	2 00	1 50	1 50
Inyo.....	30 00	27 00	25 00	60 00	60 00	40 00	1 50	1 50	1 25
Kern.....	30 00	25 00	20 00	40 00	35 00	30 00	1 50	1 25	1 25
Kings.....	30 00	25 00	25 00	40 00	35 00	35 00	2 00	2 00	1 50
Lake.....	20 00	20 00	20 00	30 00	30 00	30 00	1 50	1 50	1 75
Lassen.....	25 00	25 00	20 00	35 00	35 00	30 00	1 50	1 25	1 25
Los Angeles.....	27 00	25 00	20 00	35 00	35 00	30 00	1 50	1 25	1 25
Mendocino.....	26 00	25 00	20 00	36 00	35 00	30 00	2 00	2 00	1 50
Madera.....	26 00	26 00	20 00	36 00	36 00	30 00	2 50	2 50	2 00
Modoc.....	25 00	25 00	20 00	35 00	35 00	30 00	2 00	1 50	1 50
Mono.....	35 00	35 00	25 00	45 00	45 00	35 00	2 50	2 00	1 50
Mariposa.....	30 00	30 00	40 00	40 00	40 00	50 00	1 50	1 50	1 50
Monterey.....	25 00	25 00	20 00	35 00	35 00	30 00	2 00	2 00	2 00
Napa.....	25 00	20 00	20 00	35 00	30 00	30 00	2 00	1 50	1 50
Orange.....	25 00	20 00	20 00	33 00	30 00	30 00	1 25	1 25	1 25
Placer.....	25 00	25 00	25 00	35 00	35 00	35 00	2 50	2 50	2 00
Riverside.....	30 00	25 00	20 00	40 00	35 00	30 00	1 50	1 25	1 25
Sacramento.....	25 00	30 00	25 00	35 00	40 00	35 00	1 50	1 25	1 50
San Benito.....	25 00	20 00	20 00	35 00	35 00	30 00	2 00	1 50	1 25
Shasta.....	25 00	25 00	20 00	35 00	35 00	30 00	2 00	1 50	1 25
Santa Clara.....	25 00	25 00	20 00	35 00	30 00	30 00	1 50	1 50	1 50
San Bernardino.....	35 00	25 00	20 00	40 00	35 00	30 00	2 00	1 75	1 50
Sonoma.....	25 00	25 00	20 00	35 00	35 00	30 00	2 00	2 00	2 00
Santa Cruz.....	25 00	25 00	20 00	35 00	30 00	30 00	2 00	2 00	1 50
San Luis Obispo.....	30 00	25 00	25 00	40 00	35 00	35 00	1 50	1 75	1 75
Santa Barbara.....	25 00	20 00	20 00	35 00	30 00	30 00	2 00	2 00	1 75
Sutter.....	35 00	30 00	20 00	45 00	40 00	30 00	2 00	2 00	1 75
San Mateo.....	25 00	25 00	20 00	35 00	30 00	30 00	1 25	1 25	1 00
Solano.....	25 00	25 00	20 00	35 00	35 00	30 00	2 00	1 50	1 50
Siskiyou.....	40 00	35 00	30 00	50 00	45 00	40 00	2 50	2 50	2 00
San Joaquin.....	30 00	25 00	20 00	40 00	35 00	30 00	2 00	2 00	1 50
Stanislaus.....	28 00	25 00	25 00	40 00	35 00	35 00	2 00	2 00	1 50
San Diego.....	25 00	20 00	20 00	35 00	30 00	30 00	1 50	1 50	1 50
Tuolumne.....	30 00	30 00	26 00	40 00	40 00	36 00	1 50	1 50	1 25
Tehama.....	25 00	20 00	20 00	35 00	30 00	30 00	2 00	1 50	1 50
Trinity.....	25 00	25 00	25 00	35 00	35 00	35 00	2 00	2 00	1 50
Tulare.....	30 00	25 00	20 00	40 00	30 00	25 00	2 50	2 00	2 00
Ventura.....	30 00	15 00	20 00	40 00	25 00	30 00	2 50	2 75	2 00
Yolo.....	25 00	25 00	20 00	40 00	40 00	35 00	2 00	2 00	1 75
Yuba.....	40 00	40 00	35 00	50 00	50 00	45 00	2 00	2 00	2 00



## AVERAGE WAGES OF FARM HANDS, BLACKSMITHS, AND CARPENTERS—Continued.

County.	Blacksmiths. Wages per Day, with Board.			Blacksmiths. Wages per Day, with- out Board.		
	1893.	1894.	1895.	1893.	1894.	1895.
Amador.....	\$2 50	\$2 00	\$2 00	\$3 00	\$3 00	\$2 75
Alpine.....	2 00	2 00	2 00	2 50	2 50	2 50
Alameda.....	2 25	2 25	2 00	3 50	3 00	3 00
Butte.....	1 50	1 50	1 50	2 00	2 00	2 00
Colusa.....	2 00	2 00	2 00	3 00	2 50	2 50
Calaveras.....	2 50	2 00	2 50	3 50	3 50	3 50
Contra Costa.....	3 00	3 00	3 00	3 50	3 50	3 50
Del Norte.....	3 00	3 00	2 50	3 50	3 50	3 00
El Dorado.....	2 50	2 50	2 00	3 00	3 00	2 50
Fresno.....	1 75	1 50	1 00	2 25	2 00	1 50
Glenn.....	2 50	2 00	1 50	3 00	2 50	1 75
Humboldt.....	3 00	2 50	2 00	3 50	3 00	2 50
Inyo.....	2 50	2 50	2 50	3 50	3 50	3 00
Kern.....	2 50	2 50	2 50	3 00	3 00	3 00
Kings.....	2 00	2 00	1 75	3 00	3 00	2 50
Lake.....	2 00	2 00	2 00	3 00	3 00	3 00
Lassen.....	3 00	3 00	3 00	3 50	3 50	3 50
Los Angeles.....	2 00	2 00	2 00	2 50	2 50	2 50
Mendocino.....	2 50	2 50	2 25	3 00	3 00	2 75
Madera.....	2 50	2 50	2 50	3 00	3 00	3 00
Modoc.....	3 00	2 50	2 00	3 50	3 00	2 50
Mono.....	3 50	3 00	2 50	4 00	3 50	3 00
Mariposa.....	1 50	1 50	2 00	2 50	2 50	3 00
Monterey.....	2 00	2 00	2 00	2 50	2 50	2 50
Napa.....	2 50	2 00	1 75	3 00	2 50	2 75
Orange.....	2 00	2 00	1 75	2 50	2 50	2 25
Placer.....	2 75	2 50	2 00	3 00	3 00	2 50
Riverside.....	2 00	2 00	2 00	2 50	2 50	2 50
Sacramento.....	1 50	1 50	1 50	2 50	2 50	2 50
San Benito.....	1 50	1 50	1 25	2 00	2 00	1 75
Shasta.....	2 00	2 00	2 00	2 50	2 50	2 50
Santa Clara.....	2 00	2 00	2 00	2 50	2 50	2 50
San Bernardino.....	2 50	2 50	2 00	3 00	3 00	2 50
Sonoma.....	2 00	2 00	2 00	2 50	2 50	2 50
Santa Cruz.....	2 50	2 50	2 00	3 00	3 00	2 50
San Luis Obispo.....	2 50	2 50	2 50	3 50	3 50	3 50
Santa Barbara.....	2 50	2 00	2 00	3 50	3 00	2 50
Sutter.....	2 50	2 50	2 50	3 00	3 00	3 00
San Mateo.....	2 00	2 00	2 00	2 50	2 50	2 50
Solano.....	2 50	2 00	2 00	3 00	3 00	3 00
Siskiyou.....	3 00	3 00	2 50	3 50	3 50	3 00
San Joaquin.....	2 00	1 50	1 25	3 00	2 50	2 00
Stanislaus.....	2 00	2 00	1 50	2 50	2 50	2 00
San Diego.....	2 00	2 00	2 00	2 50	2 50	2 50
Tuolumne.....	2 25	2 25	2 25	3 00	3 00	3 00
Tehama.....	3 00	2 50	2 00	3 50	3 00	2 50
Trinity.....	2 50	2 50	2 25	3 50	3 00	2 50
Tulare.....	2 00	2 00	1 50	2 50	2 50	2 00
Ventura.....	3 00	2 75	2 50	3 50	3 25	2 75
Yolo.....	2 50	2 50	2 00	3 00	3 00	2 50
Yuba.....	3 00	3 00	3 00	3 50	3 50	3 50

## AVERAGE WAGES OF FARM HANDS, BLACKSMITHS, AND CARPENTERS—Continued.

County.	Carpenters. Wages per Day, with Board.			Carpenters. Wages per Day, with- out Board.		
	1893.	1894.	1895.	1893.	1894.	1895.
Amador .....	\$2 25	\$2 25	\$2 25	\$3 00	\$3 00	\$3 00
Alpine .....	2 50	2 25	2 50	3 00	3 00	3 00
Alameda .....	2 75	2 75	2 75	3 50	3 50	3 50
Butte .....	2 50	2 50	2 50	3 50	3 00	3 00
Colusa .....	2 50	2 50	2 00	3 00	3 00	2 50
Calaveras .....	3 00	3 00	3 00	3 50	3 50	3 50
Contra Costa .....	3 00	3 00	3 00	3 50	3 50	3 50
Del Norte .....	3 00	2 50	2 50	3 50	3 50	3 00
El Dorado .....	2 50	2 50	2 00	3 00	3 00	2 50
Fresno .....	2 00	2 00	1 75	2 50	2 50	2 25
Glenn .....	2 50	2 50	2 50	3 00	3 00	2 50
Humboldt .....	2 50	2 50	2 00	3 00	3 00	2 50
Inyo .....	3 00	2 50	3 00	4 00	3 50	3 00
Kern .....	2 50	2 50	2 50	3 00	3 00	3 00
Kings .....	2 00	2 00	1 50	3 00	3 00	2 50
Lake .....	2 00	1 75	1 50	2 50	2 50	2 50
Lassen .....	2 50	2 50	2 50	3 00	3 00	3 00
Los Angeles .....	2 00	2 00	2 00	2 50	2 50	2 50
Mendocino .....	2 50	2 00	2 00	3 00	2 50	2 50
Madera .....	2 00	2 00	2 00	2 50	2 50	2 50
Modoc .....	2 50	2 50	2 00	3 00	3 00	2 50
Mono .....	3 50	3 00	2 50	4 00	3 50	3 00
Mariposa .....	1 50	1 50	2 00	2 50	2 50	3 00
Monterey .....	2 00	2 00	2 00	2 50	2 50	2 50
Napa .....	2 50	2 50	2 00	3 00	3 00	2 50
Orange .....	2 00	2 00	1 75	2 50	2 50	2 25
Placer .....	2 50	2 50	2 50	3 50	3 50	3 50
Riverside .....	2 00	2 00	2 00	2 50	2 50	2 50
Sacramento .....	2 50	2 50	2 50	3 00	3 00	3 00
San Benito .....	2 00	2 00	2 00	2 50	2 50	2 50
Shasta .....	2 00	2 00	2 00	2 50	2 50	2 50
Santa Clara .....	2 00	2 00	2 00	2 50	2 50	2 50
San Bernardino .....	3 00	2 50	2 00	3 50	3 00	2 50
Sonoma .....	2 50	2 50	2 50	3 00	3 00	3 00
Santa Cruz .....	3 00	3 00	2 50	3 50	3 50	3 00
San Luis Obispo .....	2 50	2 50	2 50	3 50	3 00	3 00
Santa Barbara .....	3 00	2 50	2 50	3 50	3 00	3 00
Sutter .....	2 50	2 50	2 50	3 00	3 00	3 00
San Mateo .....	3 00	3 00	3 00	3 50	3 50	3 50
Solano .....	2 50	2 50	2 50	3 00	3 00	3 00
Siskiyou .....	2 50	2 50	2 50	3 00	3 00	3 00
San Joaquin .....	2 50	2 00	2 00	3 00	3 00	2 50
Stanislaus .....	2 50	2 00	2 00	3 00	2 50	2 50
San Diego .....	2 00	2 00	2 00	2 50	2 50	2 50
Tuolumne .....	3 25	3 25	3 25	4 00	4 00	4 00
Tehama .....	3 00	2 50	2 00	3 50	3 00	2 50
Trinity .....	2 50	2 50	2 00	3 00	3 00	2 50
Tulare .....	2 00	1 50	1 50	2 50	2 00	2 00
Ventura .....	3 00	3 00	2 75	3 50	3 50	2 75
Yolo .....	3 00	3 00	3 00	3 50	3 50	3 50
Yuba .....	2 50	2 50	2 50	3 00	3 00	3 00

AVERAGE VALUES OF IMPROVED LAND (BEARING AND UNBEARING) ON  
DECEMBER 1, 1893-4-5.

County.	Value of Improved Land.			Value of Orchard Land, Bearing.			Value of Orchard Land, Unbearing.		
	1893.	1894.	1895.	1893.	1894.	1895.	1893.	1894.	1895.
Amador .....	\$28 00	\$25 00	\$25 00	\$117 00	\$115 00	\$95 00	\$40 00	\$35 00	\$35 00
Alpine .....	20 00	17 00	17 00	40 00	40 00	40 00	15 00	15 00	15 00
Alameda .....	370 00	270 00	250 00	475 00	725 00	450 00	250 00	250 00	200 00
Butte .....	30 00	28 00	21 00	110 00	340 00	100 00	50 00	50 00	50 00
Colusa .....	35 00	30 00	25 00	300 00	300 00	250 00	30 00	30 00	20 00
Calaveras .....	7 50	8 00	8 00	40 00	40 00	35 00	6 00	6 00	6 00
Contra Costa .....	60 00	50 00	45 00	200 00	150 00	100 00	100 00	100 00	65 00
Del Norte .....	45 00	40 00	35 00	100 00	80 00	65 00	10 00	10 00	10 00
El Dorado .....	25 00	25 00	30 00	70 00	70 00	70 00	25 00	25 00	25 00
Fresno .....	50 00	40 00	25 00	100 00	100 00	75 00	75 00	50 00	40 00
Glenn .....	15 00	15 00	12 00						
Humboldt .....	55 00	50 00	50 00	50 00	50 00	75 00	15 00	15 00	50 00
Inyo .....	25 00	25 00	25 00	125 00	125 00	125 00	25 00	25 00	25 00
Kern .....	20 00	18 00	15 00	75 00	75 00	75 00	35 00	35 00	35 00
Kings .....	60 00	50 00	40 00	140 00	130 00	130 00	70 00	60 00	60 00
Lake .....	80 00	65 00	60 00	260 00	215 00	170 00	7 00	7 00	6 00
Lassen .....	15 00	12 00	10 00	100 00	90 00	75 00	40 00	35 00	30 00
Los Angeles .....	25 00	20 00	20 00	130 00	125 00	125 00	60 00	60 00	60 00
Mendocino .....	50 00	45 00	40 00	170 00	150 00	125 00	65 00	65 00	75 00
Madera .....	12 00	7 00	10 00	25 00	15 00	15 00			
Modoc .....	20 00	20 00	15 00	160 00	160 00	160 00	50 00	50 00	40 00
Mono .....	10 00	12 00	13 00						
Mariposa .....	4 00	4 00	4 00						
Monterey .....	85 00	85 00	85 00	250 00	250 00	250 00	50 00	50 00	50 00
Napa .....	165 00	90 00	65 00	225 00	180 00	150 00	100 00	120 00	65 00
Orange .....	75 00	75 00	75 00	150 00	150 00	125 00	80 00	80 00	80 00
Placer .....	30 00	25 00	25 00	200 00	150 00	225 00	30 00	25 00	25 00
Riverside .....	100 00	100 00	100 00	300 00	250 00	250 00	110 00	100 00	100 00
Sacramento .....	100 00	100 00	100 00	250 00	250 00	250 00	150 00	150 00	100 00
San Benito .....	75 00	70 00	65 00	150 00	150 00	150 00	80 00	80 00	75 00
Shasta .....	5 00	5 00	5 00	40 00	40 00	40 00	10 00	10 00	10 00
Santa Clara .....	100 00	100 00	100 00	300 00	300 00	300 00	200 00	200 00	200 00
San Bernardino .....	50 00	50 00	50 00	300 00	400 00	500 00	200 00	200 00	150 00
Sonoma .....	70 00	60 00	50 00	135 00	110 00	110 00	60 00	60 00	60 00
Santa Cruz .....	70 00	65 00	70 00	180 00	180 00	100 00	70 00	70 00	60 00
San Luis Obispo .....	30 00	26 00	20 00	85 00	55 00	45 00	30 00	25 00	20 00
Santa Barbara .....	25 00	40 00	30 00	275 00	200 00	185 00	130 00	125 00	150 00
Sutter .....	75 00	80 00	50 00	100 00	100 00	75 00	80 00	80 00	70 00
San Mateo .....	40 00	40 00	40 00						
Solano .....	50 00	40 00	30 00	100 00	100 00	75 00	80 00	80 00	70 00
Siskiyou .....	30 00	30 00	35 00	80 00	100 00	135 00	35 00	35 00	40 00
San Joaquin .....	70 00	60 00	60 00	150 00	150 00	150 00	30 00	45 00	45 00
Stanislaus .....	20 00	25 00	20 00	90 00	80 00	70 00	40 00	35 00	30 00
San Diego .....	25 00	25 00	25 00	125 00	100 00	100 00	50 00	40 00	35 00
Tuolumne .....	10 00	8 00	8 00						
Tehama .....	12 00	9 00	8 00	50 00	50 00	50 00	25 00	15 00	15 00
Trinity .....	10 00	10 00	10 00	50 00	50 00	50 00			
Tulare .....	30 00	25 00	20 00	250 00	200 00	150 00	75 00	60 00	50 00
Ventura .....	75 00	65 00	50 00	125 00	125 00	100 00	90 00	80 00	65 00
Yolo .....	50 00	40 00	25 00	200 00	175 00	100 00	100 00	75 00	60 00
Yuba .....	25 00	20 00	18 00	100 00	80 00	75 00	50 00	40 00	35 00



## TOBACCO.

### A VALUABLE PAPER UPON ITS PRODUCTION.

By MR. EDGAR BRIGGS, of San Francisco.

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The sections of California best adapted to the growing and curing of Havana seed leaf tobacco will be found between the outer or western rim of the Coast Range of mountains and the inner or eastern range separating the great San Joaquin and Sacramento Valleys from the immediate coast counties. Within this space the extreme heat of the interior is modified so that the temperature during the summer months has a range from 80° to 100° Fahrenheit.

The area adapted to the growing of the so-called cigar leaf tobacco embraced within this belt contains more acres than the entire island of Cuba, if that island were one entire tobacco plantation; besides which there are many valleys west of the Sierra Nevada Mountains, in Sacramento, Butte, Yuba, San Joaquin, and other counties, equally well adapted to the perfecting of this and many other aromatic plants, when properly studied and intelligently cultivated, and where the water from the many streams flowing from the mountains can be utilized in irrigation.

California has all of the varieties of soil and diversity of climate for the production of all of the fruits and vegetable products grown in the semi-tropics and the temperate zones. The time has arrived when California farmers should avail themselves of the great natural advantages within their reach to produce those things that will bear the cost of transportation to market and afford a profit for the time, labor, and expense of production. There is no article produced that will afford better or surer remuneration than tobacco.

The land that will produce hops, peaches, and other pitted fruits will be found well adapted to the purpose. Adobe and alkaline lands must be avoided. With these exceptions, tobacco will take kindly to any and all soils.

The average yield of Havana seed will be not less than one thousand pounds to the acre, and should not cost more than \$50 per acre to produce from seeding to the cured leaf.

The price must vary according to quality. A good average Havana filler will sell readily in the Eastern market for from 25 to 50 cents per pound, while choice wrappers will bring from 50 cents to \$1. Choice Sumatra wrappers are ready sale in the markets of the United States at from \$1 50 to \$2 50 per pound, and the supply is unequal to the demand. Choice Havana fillers, imported, sell for from \$1 to \$1 50 per pound, while wrappers sell for from \$1 50 to \$3.

This will demonstrate what can be realized when our tobacco-growers shall have gained the experience necessary.

Tobacco buildings will be necessary for obtaining the best results. These can be cheaply constructed of adobe, and will last for all time.

There is another class of tobacco—known as Virginia, Kentucky, North Carolina, etc.—used in manufacturing plug, chewing, fine cut, cigarette, and smoking. This class can be grown to perfection in nearly every county in the State, and is much easier handled than cigar leaf. Any farmer who can grow cabbage can grow and cure this class in this climate, only requiring sheds to protect it from the weather after it has been harvested. The yield will average 2,000 pounds and upwards per acre. The cost of production will be slightly less than cigar leaf. The price runs from 8 cents for lugs, or the inferior grades, to as high as 25 cents for choice canary or yellow leaf. By sun-curing, at least two thirds of the crop can be cured first class.

It is easy to see what the profits of tobacco-growing must be, and the world is our market. This may seem a rather florid statement, but facts are stubborn things.

In 1860 to 1864 Sonoma, Napa, and Santa Clara Counties produced large amounts of tobacco, which was worked into plug, chewing, and smoking—all of which found a ready market at high prices. At the close of the war and the opening of the Southern States, the stock on hand was forced on the market, and there being no large factories on this coast, there seemed to be no inducement for farmers to continue growing the plant.

In the early seventies, Mr. J. D. Culp, who had continued its production, formed a company, and many millions of pounds were produced, and sold in the East at prices which netted the producer from \$300 to \$1,000 per acre. He has gold and silver medals awarded him in California, New York, Australia, and at the Centennial in 1876, and has done more to bring the cultivation and curing of tobacco to perfection than any man now living; and his process of curing and preparing for market will enable any close observer to do what he is and has been doing for this product in California. The State Board of Agriculture and the State Horticultural Society should by all means obtain from him his advanced methods, and furnish them to the growers.

The writer has had many years' practical experience in the growing, curing, and handling of tobacco in all its forms, and will be pleased to give such information as will enable the grower to produce a good, merchantable article; but to Mr. Culp belongs the methods that will enable the producer to obtain the most perfect results in curing cigar leaf tobacco.

#### PREPARATION OF THE SEED-BEDS.

The ground selected should be on the south side of some whitewashed shed, fence, or building—white will act as a reflector, and give warmth to the young plants. The ground should be well drained. Plow or spade deep, say 10 to 12 inches. Burn straw or, better, brush after spading; this will destroy bugs and weed-seeds, besides supplying potash, upon which the young plants feed. Then go over the ground, carefully pulverizing the soil.

To each bed 3 feet wide and 30 feet long take an ounce of live seed not more than two years old; mix it into a pint of dry ashes and sow broadcast as evenly as possible. Then either roll lightly with a light garden roller, or pat the ground lightly with a spade, and your seed-beds are all right.

Place a board, not more than 6 to 8 inches wide, edgewise on the north side of the beds. Take strips of boards, say 3 inches wide, and make frames of convenient size to handle; tack on to these frames cheese cloth, making covers for the beds. These will protect the young plants from being broken in case of heavy showers of rain, and at the same time protect them in case of frost. Water frequently through these coverings, as the young plants are tender and easily broken. Care should be had not to chill the ground by too much water. Never permit the ground to become clammy or a crust to form. When the plants are fairly started above the ground, remove the covers and let the warmth of the sun reach them, avoiding extreme heat in the middle of the day. In thirty or more days the plants will have reached the height of 4 to 6 inches, and will have four or more leaves. Then remove the covering entirely, if after the season of frost, and your plants will in a few days become hardy and ready to set out in the field. Never permit weeds to grow in your seed-beds.

#### THE PLANTATION.

The land intended for your plantation should be thoroughly and deeply plowed, say 10 or more inches; if the ground had previously been in grain, summer-fallowing would be desirable, as most grain-growers plow only 4 to 6 inches deep, and thus is formed an artificial subsoil which will prevent the tap-root of the plant from going deep enough to reach the moisture.

After plowing and cross-plowing, harrowing, and then boarding, you should see that there are no clods—the finer the ground the better, as it will retain and in hot weather supply moisture to the plants.

Your ground being ready, draw as many plants as you can set that day, care being taken to moisten the plant-beds so that in drawing the roots are not broken. Keep the plants covered after pulling, and moisten often so that they will not wilt.

Then plow a furrow and back furrow, thus forming a ridge, upon which you set your plants for Havana tobacco. The rows or ridges should be from  $2\frac{1}{2}$  to 3 feet apart and the plants in the row 2 feet apart. Care must be taken that the hole in which the plant is set (make with a peg or dowel) is sufficiently deep to let the roots have room enough without cramping. Then press the soil closely around the stem, placing a small tuft of grass upon the plant, and your plant is properly set.

Plant rows in the field from north to south; this will allow the sun to stream in along the rows, and keep the ground warm. Never plant east and west, if the conformation of the ground will permit.

In a few days the plants will have taken hold of the soil, and you can remove the covering. Then run a cultivator between the rows; and if any weeds are growing between the plants, remove them by hand if necessary, or with the hoe. Thorough cultivation, in soil properly prepared, will draw the moisture to the surface, and is equal to ordinary irrigation where that is not convenient. Continue your cultivation three or four times, until the plants have reached a height of from 3 to 4 feet; then cease, as the plant will by this time have thrown out innumerable hair-like fibers, and by cultivating after that these would be destroyed, and your plants would mature prematurely.

See to it that all suckers are broken off, as they make their appearance at the point where the leaf joins the stalk.



## CUTTING AND CURING.

When the leaves begin to show spots of yellowish green, and the deep green shades off into a lighter or yellowish green, and the flowers begin to show themselves, your tobacco is ripening—say in August or thereabouts, varying with the climate.

At this stage, in the East, the planter begins to top his tobacco, and in fifteen to thirty days the leaves become large and heavy. This is necessary there, as their season is short and they must harvest their crop before the frosts of September come. Here, where our seasons are long and often without frost, even in November, it would be a mistake. Let your plant form its seed-pods, and do not top until the day of, or a day or two before, cutting. In our climate, where a large amount of honey dew is generated, the tobacco would become too strong and rank were we to top as they do in the East. The percentage of power required to produce the flower and seed-pod modifies and reduces this strength.

Tobacco should never be cut when the dew is on the leaf, nor yet in the heat of the day. Cut as much each day as you can handle easily. With a hatchet cut the stalk near the ground, and let it lie in the field until wilted. Take care that it does not remain long enough on the hot ground to burn; if you do, your tobacco is of little value. Having lain long enough to wilt, take it up and move to some shady place, or pile it in the field, care being taken in piling not to break or tear the leaves. There let it remain. If the pile shows a disposition to generate heat above 110° Fahrenheit, you can stop its heating by gently raising and fanning. Then when the heat has reached the above mark (110°), if Virginia, you can hang on the racks and let the sun do the rest. Should it be excessively hot and the moisture evaporating too rapidly, the leaves showing a disposition to cure, press the plants closer, and, if necessary, add more fresh plants, thus supplying moisture. In ten to fifteen days your tobacco will be ready for stripping, hanging up, and piling loosely in bulk, where any excess of moisture will pass off. Then on some foggy day you can grade and pack in hogsheads or in cases, as the case may be, for market. All of this class of tobacco is packed for market in hogsheads of say from 1,000 to 1,200 pounds.

The same process of curing will answer for Havana tobacco up to the point of hanging up. This should be done in buildings where the temperature can be controlled, as it has to pass through a process of fermentation to develop the aromas and the proper coloring matter. This can be done by a system of pilings, where the proper buildings are not at hand, the object being to prolong the process so that the moisture does not evaporate so fast as to carry with it the aromas and coloring matter.

The process has undergone great improvement in the past three years, through the study and untiring efforts of Mr. J. D. Culp, of San Benito, who has simplified and cheapened the method, at the same time rendering success certain. I shall not enter more fully upon this system of curing, in justice to Mr. Culp, who will at all times give such instructions as will enable any one at all observant to carry out his process to a successful issue.

I omitted to describe the mode of hanging. Racks can be made by any one with a saw and hammer. Take scantling 2x4 and tack on boards, on one side say 18 inches apart; on the reverse side the same,

leaving a space between the front and rear of an inch or more, so that the plant rests on the front board, while the rear holds the butt end of the stalk. This enables a person to hang twice as many stalks as in the old method. The leaves all hang down at a slight angle, giving every leaf the advantage of not touching the other. These racks may be as high as you please, though a person standing on the ground will find 7 feet high enough; in buildings they can be the height of the building.

I have thus hurriedly given you such information as my time will allow, yet in addition might say that after the ground has been plowed, harrowed, and boarded, it should stand three or four days, in which time the lower moisture would be drawn to the surface. Then ridge as described above, and set the plants on the apex of the ridge.

Tobacco does not need the amount of rain that many other plants do, as it is a great feeder from the atmosphere and readily adapts itself to conditions. Irrigation, if it could be had, and used a few days before planting, would start the plants quickly. Many forget that the use of water should be carefully adapted to the particular product and the soil as well as the climate, to be of the greatest benefit. Most irrigators use too much water, chilling and dissolving the elements of the soil and impoverishing it to such a degree that in a few years it will have become comparatively barren. The subject of irrigation is one of great interest to California and not well understood by most of our farmers and fruit-growers. It is to be hoped that the time is at hand when men of practical experience and close analytical thought will take up the study and benefit the State thereby.

## THE DAIRY.

By MR. P. J. SHIELDS, of Sacramento.

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The transition from farming as a great commercial enterprise, where fortunes were made from a single crop, to the diversified farming of the Eastern States will be slow and difficult. The habits and standards of pioneer days will be difficult to eradicate or change. But commercial conditions are real things, and in the school of necessity even "old dogs" are "taught new tricks." The day for farming great wheat or hop fields is practically over. Under present conditions of transportation and distribution, to increase the acreage of fruit is inadvisable. This state of affairs brings our great agricultural community face to face with a condition which they must overcome, or which will reduce farming to a struggle for existence. When the end comes to a great industrial enterprise, as it has practically to that of farming great areas to wheat and hops, hardship is inevitable; but those who most readily adapt themselves to the new order of things, change with the conditions of trade, best study the wants of commerce, and best anticipate the developments of progress, will suffer least or not at all. The day of small holdings has come in California, diversified farming has become a necessity, and haphazard methods, trusting to "luck" and "general principles," will no longer insure even qualified success.

One of the first industries which this new order of things suggests is the more general adoption of Dairying by the farmers of this State. This has everything to recommend it to our people, to whom it has ever been a reproach that we were compelled to import annually many tons of butter from the Eastern States—sun-scorched in summer, snow-bound in winter, where the cattle have to be housed seven months in the year, and expensively cared for all the time. Our climate promotes animal growth and early maturity. Young heifers come into use under twenty months old, after having been inexpensively reared. Cows can be more economically housed and fed here than in any other part of the United States. Our alfalfa, which grows so luxuriantly, is the cheapest and best dairy food in the world. The wheat, of which we grow so great a surplus, and sell without profit, is one of the cheapest and most nutritious grain rations. Rolled or crushed wheat is only just beginning to attract the attention of our farmers, and it will be to their advantage to greatly increase its consumption. Ground barley is also, as a dairy food, much undervalued. In addition to these we grow in this State great quantities of bright, sweet oat and wheat hay, sugar beets and man-golds, squash, pumpkins, corn fodder, and ear corn. These, all grown in profusion and cheaply, taken in combination with our rich natural grasses and economic climatic conditions, make this the home of dairy cattle and the paradise of the dairy farmer.

But in this business, as in others, our pioneer methods will have to give way to modern improvements. Our farmers will have to learn



the true economy of judicious high feeding and good care. A cow which on light feed will barely pay expenses may, by considerably increasing her feed, register a profit. Again, the day of the scrub is gone forever; no man can now afford to keep poor native cattle, or even graded or thoroughbred cattle unless of individual merit. Farmers must learn that they cannot ever afford to buy a cheap cow, or a fairly good one, if a better one can be had for twice the money. Thoroughbred or purebred cattle are no longer a fancy—they are now a necessity. This is the age of specialties, and the farmer or dairyman, in selecting his herd, must be governed accordingly. He must choose a special purpose cow, a breed bred especially for dairy purposes, such as the Jersey, Guernsey, Holstein, or Ayrshire. With a good foundation of his chosen breed, his effort should be to always improve and breed up. In the selection of a bull to head a dairy herd, too much care cannot be exercised. He must be pure bred, he must be individually good, and his immediate ancestry must have been of unusual milk and butter excellence. His sire must be a bull of acknowledged merit as a sire of dairy cows; his mother should be a model animal, a large milker of rich milk, strong, vigorous, a hearty eater, and of a constitution which will prolong her usefulness into her old age. Richly bred animals are numerous in this State, and so cheap that no one should waste time and opportunity practicing the fatal economy of using a poor bull. With such a bull, by saving the heifers of your best cows, the future merit of your dairy herd is assured.

Again, old-fashioned methods have gone with the old-fashioned cow. The cream separator or butter extractor, improved churns and methods of working butter must be adopted. Markets must be studied, and the most advantageous methods of use and sale of dairy products and by-products must be taken advantage of. Extensive dairy farmers may establish private creameries, also an individual brand which guarantees good quality, and always maintain that standard in weight and quality. In many sections the modern method of coöperative creameries would be advisable, having many advantages over small private dairies. In our larger cities much improvement is demanded in the milk supply, and for farmers located near such cities the opportunities for selling pure milk at a good profit are many, and only require energy and originality to be turned into a permanent and profitable business. The selling of milk in neat, tightly closed bottles is becoming very popular with city customers, and has much to recommend it from a standpoint of health and convenience. Many small private dairies near our cities might find very good results from selling butter or cream directly to the consumer. Any one who can assure the people that he can furnish them with first-class butter, fresh from the churn, as often as they may require it, will have no difficulty in finding all the demand he can supply. These are fields practically unexplored in this State, and their possibilities are limitless. Our cities suffer from poor butter and impure milk, and those persons who have the enterprise, the energy, and the honesty to build up a business of supplying these products, pure, promptly, and in attractive form, will always find a demand which combines permanence and profit.

Dairymen should be scrupulous as to the purity of their product, and they, together with all other farmers, should be the deadly enemies of all kinds of food adulteration. All tampering with foods, all sophistica-

tion of products, aside from its iniquity as a crime against health, is always at the direct expense of the farmer, by degrading his calling, and by replacing the products of his toil with cheaper and baser substitutes. The farmers through their organizations, by their ballots, through their papers, should always raise their voices for pure foods.

The by-products of the dairy are no inconsiderable part of its recommendations. Poultry and swine, well bred, well fed, follow naturally in the wake of the dairy. California imports poultry and eggs very extensively, and lard and pork by the trainload. And all this in a State where animals thrive in the open air the year round, and while we export shiploads of wheat and barley, often without profit. These grains and the waste of the dairy can be fed to these animals with advantage to the State and profit to the individual. The credit system is one of the greatest evils under which our farmers labor. With but one harvest there can be but one pay day, and all the year to run in debt. The result has been most disastrous to our farmers, with its resultant slavish dependence, high interest, and high prices. With the advent of the dairy all this will pass away. The daily, weekly sales of butter, cheese, chickens, hogs, eggs, and veal will make a steady income which will emancipate our farmers and enable them to buy in the cheapest markets and do business according to business usages.

With the dairy and the mixed and diversified farming which accompanies it, will come more thought and care, more system, organization, coöperation. It will make work on the farm for the boys; it will give them a variety of occupation, a field for thought and experiment. The flower of our manhood will cease to be drained to recruit the already congested population of our cities. Our citizenship will be elevated, our rural districts populated with a sturdy class of thoughtful, educated, and prosperous people, and a vigorous, powerful, and wealthy State shall rear an empire upon these Western shores, in which each man shall be a sovereign, and in which all men shall be free. A wisely appointed agriculture shall be the rock upon which her greatness shall be founded, and her prosperity shall endure while a kindly Providence tempers the winds which wave her grasses, and bathes her verdant bosom in perpetual sunshine.

## THE SOUTHERN CALIFORNIA CITRUS FAIR, 1895.

HELD IN LOS ANGELES, FEBRUARY 28 TO MARCH 9.

## JUDGES' OFFICIAL LIST OF AWARDS.

## CLASS I.

Best display of Citrus Fruit from county:

First premium .....	San Antonio Fruit Exchange, Pomona.....	\$150 00
Second premium .....	Riverside Fruit Exchange, Riverside.....	125 00
Third premium .....	Duarte-Monrovia Fruit Exchange, Duarte.....	100 00
Fourth premium .....	San Bernardino County Fruit Exchange, Colton.....	75 00
Fifth premium .....	Semi-Tropic Fruit Exchange, Los Angeles.....	50 00
Sixth premium .....	Orange County Fruit Exchange, Orange.....	25 00
		<hr/> \$525 00

## CLASS II.

Best display of Citrus Fruit from any locality:

First premium .....	Pomona Fruit Association, Pomona.....	\$100 00
Second premium .....	Ontario Fruit Association, Ontario.....	75 00
Third premium .....	Duarte Citrus Association, Duarte.....	50 00
Fourth premium .....	Riverside Heights Association, Riverside.....	40 00
Fifth premium .....	Highland Fruit Association, Highland.....	30 00
Sixth premium .....	Pachappa Fruit Association, Riverside.....	20 00
		<hr/> \$315 00

## CLASS III.

Best exhibit of Budded and Seedling Oranges:

First premium .....	W. H. Backus, Riverside.....	\$60 00
Second premium .....	J. S. Castleman, Riverside.....	50 00
Third premium .....	J. E. Cutter, Riverside.....	40 00
Fourth premium .....	H. J. Nichols, Pomona.....	30 00
Fifth premium .....	O. S. Pitcher, Ontario.....	20 00
Sixth premium .....	W. S. Corwin, Highland.....	10 00
		<hr/> \$210 00

## CLASS IV.

Best exhibit of Lemons:

First premium .....	J. W. Freeman, Ontario.....	\$60 00
Second premium .....	Easley & Griswold, Ontario.....	50 00
Third premium .....	Harwood Bros., Ontario.....	40 00
Fourth premium .....	W. A. Robb, Ontario.....	30 00
Fifth premium .....	W. F. Grow, Highland.....	20 00
Sixth premium .....	W. M. Stroud, Cucamonga.....	10 00
		<hr/> \$210 00

## CLASS V.

Best exhibit of Washington Navels:

First premium .....	J. E. Cutter, Riverside.....	\$20 00
Second premium .....	Arlington Heights Association, Riverside.....	15 00
Third premium .....	S. A. Overholzer, Covina.....	10 00
Fourth premium .....	Everst Ranch, Riverside.....	5 00
		<hr/> \$50 00

## CLASS VI.

Best exhibit of Mediterranean Sweets:

First premium .....	J. A. Maddock, Duarte.....	\$20 00
Second premium .....	J. S. Castleman, Riverside.....	12 50
Third premium .....	Arlington Heights Association, Riverside.....	7 50
		<hr/> \$40 00



## CLASS VII.

## Best exhibit of Blood Oranges:

First premium .....	J. E. Cutter, Riverside.....	\$20 00
Second premium .....	A. J. Twogood, Riverside.....	12 50
Third premium.....	Geo. H. Dole, Riverside.....	7 50
		<hr/> \$40 00

## CLASS VIII.

## Best exhibit of St. Michaels:

First premium .....	W. H. Backus, Riverside .....	\$20 00
Second premium .....	F. J. Smith, Pomona .....	12 50
Third premium.....	D. W. McLeod, Riverside.....	7 50
		<hr/> \$40 00

## CLASS IX.

## Best exhibit of Seedling Oranges:

First premium .....	J. S. Castleman, Riverside.....	\$20 00
Second premium .....	D. W. McLeod, Riverside.....	12 50
Third premium.....	H. L. Story, San Diego.....	7 50
		<hr/> \$40 00

## CLASS X.

## Best exhibit of Lisbon Lemons:

First premium .....	Easley & Griswold, Ontario .....	\$20 00
Second premium .....	W. A. Robb, Ontario.....	12 50
Third premium .....	J. W. Freeman, Ontario .....	7 50
		<hr/> \$40 00

## CLASS XI.

## Best exhibit of Villa Franca Lemons:

First premium .....	J. W. Freeman, Ontario .....	\$20 00
Second premium .....	Harwood Bros., Ontario .....	12 50
Third premium .....	J. E. Packard, Pomona .....	7 50
		<hr/> \$40 00

## CLASS XII.

## Best exhibit of Eureka Lemons:

First premium .....	Little Bros., Ontario.....	\$20 00
Second premium .....	Easley & Griswold, Ontario .....	12 50
Third premium .....	J. W. Freeman, Ontario .....	7 50
		<hr/> \$40 00

## CLASS XIII.

## Best packed box of Oranges:

First premium .....	Miss May Houston, Pomona .....	\$10 00
Second premium .....	Chas. L. Wilson, Los Angeles.....	5 00
		<hr/> \$15 00

## CLASS XIV.

## Best packed box of Lemons:

First premium .....	W. C. Ormiston Azusa .....	\$10 00
Second premium .....	Geo. A. Betts, Placentia .....	5 00
		<hr/> \$15 00

## CLASS XV.

## Best thirty specimens of Navel Oranges:

First premium .....	Jos. Dundos, Ontario .....	\$20 00
Second premium .....	L. C. Waite, Highland .....	15 00
Third premium .....	Riverside Orange Co., Riverside.....	10 00
Fourth premium .....	Capt. Thos. Frye, Highland .....	5 00
		<hr/> \$50 00

## CLASS XVI.

## Best thirty specimens of Mediterranean Sweets:

First premium .....	Riverside Orange Co., Riverside.....	\$15 00
Second premium .....	W. H. Backus, Riverside .....	10 00
Third premium .....	Miss E. C. P. Edwards, Riverside.....	5 00
		<hr/> \$30 00

## CLASS XVII.

## Best thirty specimens of St. Michaels:

First premium	W. F. Grow, Highland	\$15 00
Second premium	W. H. Backus, Riverside	10 00
Third premium	Mrs. M. E. Darling, Riverside	5 00
		<hr/>
		\$30 00

## CLASS XVIII.

## Best thirty specimens of Blood Oranges:

First premium	W. B. Cullen, Azusa	\$15 00
Second premium	C. L. Fox, Riverside	10 00
Third premium	W. F. Grow, Highland	5 00
		<hr/>
		\$30 00

## CLASS XIX.

## Best thirty specimens of Japanese Oranges:

First premium	A. P. Harwood, Ontario	\$15 00
Second premium	O. S. Pitcher, Ontario	10 00
Third premium	W. H. Backus, Riverside	5 00
		<hr/>
		\$30 00

## CLASS XX.

## Best thirty specimens of Valencias:

First premium	Miss E. C. P. Edwards, Riverside	\$15 00
Second premium	J. S. Castleman, Riverside	10 00
Third premium	Riverside Orange Co., Riverside	5 00
		<hr/>
		\$30 00

## CLASS XXI.

## Best thirty specimens of Seedlings:

First premium	W. H. Backus, Riverside	\$15 00
Second premium	J. H. F. Jarchow, San Gabriel	10 00
Third premium	J. B. Wickoff, Nordhoff	5 00
		<hr/>
		\$30 00

## CLASS XXII.

James Root, Rivera	Thirty specimens of Magnum banana	\$15 00
J. B. Wickoff, Nordhoff	Thirty specimens of pineapple	10 00
P. O. Johnston, Rivera	Thirty specimens of Jaffa	5 00
		<hr/>
		\$30 00

## CLASS XXIII.

## Best thirty specimens of Lemons:

First premium	Little Bros., Ontario	\$25 00
Second premium	John Hoffman, Cucamonga	22 50
Third premium	G. R. Thayer, Cucamonga	20 00
Fourth premium	J. W. Freeman, Ontario	17 50
Fifth premium	C. E. Harwood, Ontario	15 00
Sixth premium	G. Whitten, Ontario	12 50
Seventh premium	J. W. Freeman, Ontario	10 00
Eighth premium	W. A. Robb, Ontario	7 50
Ninth premium	Easley & Griswold, Ontario	5 00
		<hr/>
		\$135 00

## CLASS XXIV.

## Best exhibit of Limes:

First premium	W. H. Backus, Riverside	\$10 00
Second premium	E. C. Winslow, Highland	5 00
		<hr/>
		\$15 00

## CLASS XXV.

## Grape-Fruit:

First premium	C. O. Whitman, Chula Vista	\$10 00
Second premium	Elmer Gilbert, Colton	5 00
		<hr/>
		\$15 00

## CLASS XXVI.

## Shaddocks:

W. R. Ingram, Highland	\$5 00
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## CLASS XXVII.

## Citron of Commerce:

First premium	L. D. Bailey, Sweetwater Springs	\$10 00
Second premium	D. D. Johnston, Norwalk	5 00
		<hr/> \$15 00

## CLASS XXVIII.

## Prepared Citron:

Mrs. M. McLaren, San Diego	\$5 00
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## CLASS XXIX.

## Best gallon of Olive Oil:

First premium	J. L. Howland, Pomona	\$10 00
Second premium	F. Kimball, San Diego	5 00
		<hr/> \$15 00

## CLASS XXX.

## Best gallon of Pickled Olives:

First premium	H. Wheeler, Pomona	\$10 00
Second premium	F. Kimball, San Diego	5 00
		<hr/> \$15 00

## CLASS XXXI.

## Packed Raisins:

First premium	W. H. Backus, Riverside	\$10 00
Second premium	Boston Ranch, San Diego	5 00
		<hr/> \$15 00

## CLASS XXXII.

## Dried Figs:

James Black, Glendale	\$5 00
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## CLASS XXXIII.

## Products of Orange and Lemon:

First premium	S. M. Woodbridge, Los Angeles	\$50 00
Second premium	E. G. Drifill, Pomona	15 00
Third premium	Mrs. M. McLaren, San Diego	10 00
Fourth premium	Mrs. Shooting, South Pasadena	8 00
Fifth premium	Miss G. McNab, Riverside	7 00
Sixth premium	Mrs. A. W. Cottrell, Riverside	5 00
		<hr/> \$95 00

## CLASS XXXIV.

## Guavas:

W. H. Kimball, National City	\$5 00
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## CLASS XXXV.

## Products of Semi-Tropic Fruits:

First premium	Mrs. A. W. Cottrell, Riverside	\$15 00
Second premium	Mrs. W. C. Fuller, Colton	10 00
Third premium	Mrs. Shooting, South Pasadena	5 00
		<hr/> \$30 00

## CLASS XXXVI.

## Special:

W. H. Backus, Riverside	Novel design	\$17 50
J. C. Frisbie, San Diego	Novel design	17 50
F. J. Smith, Pomona	Novel design	17 50
J. E. Cutter, Riverside	Novel design	17 50
W. C. Fuller, Colton	Novel design	17 50
A. Petsch, Los Angeles	Novel design	17 50
Ed. Churcher, San Diego	Fruit basket	7 50
E. Turike, Los Angeles	Citric acid test	7 50
F. S. Story, San Gabriel	Novel design	5 00
Chamber of Commerce, Los Angeles	Central tower	125 00
		<hr/> \$250 00

C. D. WILLARD, Secretary.

FRANK WIGGINS, Superintendent.



## BEET SUGAR INDUSTRY.

Extracts from a pamphlet compiled and published by the SACRAMENTO BANK, in their desire to encourage experiments in the various sections of this State.

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### SUGAR BEET CULTIVATION.

**Claus Spreckels Talks upon a Subject of Great Interest—Important Industry for California—The State Could Supply the Markets of the Entire Country—Valuable Hints to Farmers—Guide to the Farmer in the Planting, Culture, and Harvesting of the Crop.**

San Francisco Daily Morning Call, December 1, 1895.

A great many inquiries have recently been received by "The Call" relative to the beet sugar industry. These inquiries refer not only to the general questions of adaptability of soil, profit in sugar beet growing, and individual benefits to be derived, but also to the details of preparing the soil, selecting the seed, and the cultivation, harvesting, and marketing of the crop.

Appreciating the long experience and thorough knowledge of Claus Spreckels upon the subject, "The Call" has frequently taken the liberty to refer these inquiries to him. Mr. Spreckels has kindly answered these questions personally. But the increased number of them, showing the widespread interest evinced by the farmers of California upon the subject, demands the presentation of facts as to sugar beet growing in such a manner that every farmer in the State may have the benefit of Mr. Spreckels' knowledge.

With this in mind, Mr. Spreckels was yesterday asked to present, through "The Call," such information as will serve the people to the best possible advantage.

"I believe," said he, "that the beet sugar industry is one of the great means by which the State of California will become universally prosperous. It is a great industry and one that, when more thoroughly comprehended by the farmers and others who should be interested, will become of great value to the farming, commercial, and transportation interests of the State.

"It may be contended by persons not fully cognizant of all the details of the industry and the benefits accruing, that there is profit only for the manufacturer. But this will not be the result. The producer and the employé must, in the nature of things, share with the manufacturer. As the sugar industry will add to the tilled acreage of California, so will it add to the facilities of the farmer for the accumulation of wealth and demand an added number of employés. The commercial interests of the towns and cities must likewise be enhanced, and the consumer share in the general result. The producers and manufacturers of this State, by an association which is active in its efforts, desire the patronage of home products and home manufactures. The beet sugar industry is right in line, in a double sense, as it includes

both the production of the raw material and the manufacture of the article ready for consumption. Should the industry grow, as I hope it will, to such an increase of acreage as to demand the advent of more farmers into the State, then it will become an indirect adjunct to the Half-Million Club in aiding the increase of the population of California, if not of San Francisco.

"I am willing to add to my investments in this State by the establishment of beet sugar factories, in the hope of arousing the people of California to the due importance of this great subject, as well as to my own profit. No man puts his money into an enterprise merely for the benefit of his fellow-man, but it should not be construed that an investment of money in a California home industry is purely a selfish investment. The people who will be directly or indirectly benefited by added sugar plants should not lose sight of the advantages of the industry to them. Manufacturers are no more selfish than are others who invest capital with a view to the accumulation of wealth. If the investor adds to his possessions, naturally the people whom his industry affects will prosper. The farmer who helps the manufacturer helps himself as well.

"The subject of tariff on sugar is one that, in view of adding to the sugar manufacturing industry, must of necessity interest the people of this State. The Republican idea of protection becomes an object-lesson in the establishment of the sugar industry. Without a protective tariff there could be no success attendant upon the efforts of capital and the tillage of the soil to this end. But the tariff on sugar should not exceed the demands of protection. California asks nothing more for any industry than to be protected against unfair competition. But this State need not confine itself to the mere effort to supply the home market with beet sugar. If this State can become a competitor in the markets of the country there is no reason why the effort should not be made. Let there be a tariff of  $1\frac{1}{2}$  cents per pound on sugar, and California, with the coöperation of the farmers, would be enabled to turn 100,000 acres of land, which is not now in condition for tilling, into the growing of sugar beets, and could produce enough sugar to supply the markets of the entire United States.

"From a careful study of the subject, I have been enabled to prepare some points of information for the guidance of the farmers that will be of service to those who may be desirous of experimenting in sugar beet culture.

"The tract of land to be prepared for beets should be measured and a note taken of the crop raised upon it in the previous year. No stock whatever should be allowed upon it after the first autumn rains.

"In the preparation of the land, sugar beets should have deeply plowed, well worked, and finely pulverized soil. Plow from 10 to 12 inches deep as soon as practicable after the first rains. Thereafter, at proper intervals, cultivate and stir the soil so as to thoroughly pulverize it and bring it to a good state of tilth before planting. It should be remembered that beets can only derive sustenance from finely divided, moist soil. If it is badly prepared and full of clods, it will soon dry out, the beets will cease to grow, and the experiment end in failure. If from any cause the land is not properly prepared, it is better to abandon the experiment.

"The sowing should be done as soon as the soil is warm enough to

germinate the seed. Sow about ten pounds of seed to the acre, in rows 18 to 21 inches apart, using any suitable drill with a forced feed. Sow as shallow as possible; just deep enough to be covered with moist earth. Seed should come up in from 7 to 21 days. If the stand of young beets is not good, cultivate them up and resow.

"Beets should be thinned as soon as they develop four leaves. If thinning be delayed, the beets left will be disturbed by those plucked out. If thinned when only four leaves are out, the top soil is still moist, and the beets left have no difficulty in taking hold and growing with increased vigor; but the violent disturbance caused by thinning a few days later is not so easily overcome. The top soil is drier, and the young beet receives a setback that will certainly affect the yield. Thin out from 6 to 10 inches, according to richness of soil. Leave only one beet in one place, taking care to select the most vigorous.

"Weeds must be rigorously kept under by hoeing and cultivating. If rain falls after sowing and a crust forms on the land, it must be broken up by hoeing or cultivating. Rows 18 to 21 inches apart allow enough space for a horse to draw a cultivator through them. This is a cheap and effective way to destroy weeds and keep the top soil loose. Continue to hoe and cultivate as long as weeds appear, or until the beets cover the ground.

"Sugar beets usually ripen in 120 to 160 days from date of sowing. After they have been in the ground that length of time and the outer leaves turn yellow and die down, it is an indication that the beets are ripening.

"To take a sample for analysis, dig two or three rows of beets in different parts of the field, sort these beets into three sizes—large, medium, and small—and take at random every twentieth beet from the three piles to form the sample for analysis. The sample should consist of twenty or twenty-five beets. Do not top the beets with a knife, but twist the leaves off and ship in sacks by freight as soon as you can. Mark each sack plainly with name and address of raiser, and send a shipping receipt, together with letter containing full particulars, by mail.

"In order to enable the farmer to carry out these suggestions a very low price has been set upon sugar beet seed. P. A. Buell, of Stockton, and Capt. H. C. Corcoran, of the California Navigation and Improvement Company, have kindly consented to take general supervision of the distribution of seed throughout the State, sending to each applicant a sufficient quantity to plant one tenth of an acre. The instructions I have here given will show the experimenter how to prepare the soil and cultivate the experimental crop.

"As these instructions are being carried out the farmer should carefully note every item of expense that could naturally accrue. Then by multiplying the cost and result of his experiment by ten he will arrive at the result per acre.

"The question has been asked as to the number of acres necessary to be planted to support the establishment of a beet sugar factory. About 30,000 acres would be the requisite number. Not that a factory would consume the annual product of that acreage, but rather about one third of that. The requisition for threefold the capacity is made upon the proposition that in order to keep the land in a productive state it must be changed at least once in three years from beet planting to that of some cereal suitable to the character of the soil.



"If these ideas are followed the experiment will prove successful, and the ultimate result should be the establishment of the beet sugar industry in this State to an extent that will greatly enhance the interests of the whole people."

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#### WHY THE BEET SUGAR INDUSTRY SHOULD BE SUCCESSFUL IN SACRAMENTO.

C. C. Howell Tells what He Learned in Watsonville, Alvarado, Chino, and other Centers where Sugar is Manufactured from the Juice of Beets.

Sacramento Bee, December 5, 1894.

*To the Editor of the Bee*—SIR: When in Utah and Nebraska I wrote you something about the sugar beet industry in that section. On my return to Sacramento many of your readers were anxious for me to investigate the sugar industry in this State, and make the same known to the people of Sacramento. Since my return I have visited Watsonville and Alvarado, and am now at Chino.

Watsonville started in 1890 with a factory having a capacity of about 300 tons. Each year they have increased the capacity, until now they are able to treat 800 tons of sugar beets a day. The farmers were slow to get started in the beet industry, but the profits from raising beets have been so much more than those derived from growing grain or fruit that the applications already presented to the factory are greater than the capacity of the factory for another year. Grain sowing other than for home use, is about abandoned; fruit planting is very limited, excepting where farmers are growing beets and raising orchards together.

The factory at Watsonville is paying \$5 per ton for beets this year, regardless of the saccharine matter they contain. They will average about 14 per cent. Next year they expect to pay but \$4 per ton. The farmer has the cost of raising to a certainty, averaging about \$20 per acre, and is paying from \$10 to \$20 per acre for land, depending upon its locality near the factory.

The entire yield of the Watsonville district averages about 12 tons to the acre, leaving a margin greater than that of any other crop. There seems to be less fault-finding among beet-raisers than among any other class of farmers that it has been my good fortune to meet. The general conditions around Watsonville show that the beet sugar industry gives the people a prosperous appearance. All the money from the entire product of the factory goes into the hands of the community there. The lime rock used at the factory is mined in the county. The wood for fuel is procured in the county. Over a million dollars has gone into the hands of the people in that part of the county, and not a single dollar gone out for material.

At Alvarado, in Alameda County, they are not through with their campaign. They had applications this year for a third more acreage than they contracted, and will be harvesting until December 1st, and will have in store at that time over 11,000 tons of beets. Their capacity is about 300 tons per day. They are paying \$5 a ton for beets this year, but do not expect to pay more than \$4 next. In conversation with many of the growers there I learn that they pay about \$20 per acre, on an average, for the land, and as land in that locality is valuable for vegetables, being so close to San Francisco, I am inclined to think they

will have to pay \$4 50 in order to get enough to run their factory to its full capacity another year. The yield in the territory of this factory averages about 20 tons to the acre. They have not been able to reduce the cost of production, as the people of Watsonville have, and are paying the same price for work to-day that they did when they first commenced to raise beets. The growers of beets are largely Portuguese, and they do not seem to "catch on" in the economy of raising beets.

The Alvarado factory has been running for several years, and is the outgrowth of the original factory at one time located at Brighton, near Sacramento. There are a number of the presses now in use that were in the factory at Brighton. The balance of the material bought has long since gone into the scrap pile. The factory at Brighton was built for 60 tons, while the present Alvarado factory has a capacity of 300 tons. No fuss has been made by the stockholders over this industry, but it is known to have been financially a success, although it has had a great many obstacles to overcome, being the pioneer in the beet sugar industry in this country. It is the smallest, excepting the one at Staunton, Virginia. Alvarado has some advantages—that of cheap fuel, cheap transportation of its products to a good market, location to sell its pulp and syrup to good advantages—none of which Sacramento does not possess. In addition, Sacramento has the advantage of the river for getting beets.

After a careful study of all conditions, all the beet sugar factories, and the country in which sugar beets grow, Chino, or perhaps Anaheim, in Orange County, furnishes nearer the conditions which exist at Sacramento than does any other part of the country. I shall go more into the details of sugar beet growing, and the value that it is to a community, especially to one located as is Sacramento, from this place. I have an engagement in the morning with Richard Gird, the promoter of this industry at this place—perhaps I should call him a philanthropist rather than a promoter.

A great many men establish monuments for themselves in after years, but none has ever established a monument that will do a greater good to a country than that established by Mr. Gird. Thousands of people will receive honest employment and thousands of acres of land will be cultivated profitably through the results of his efforts in establishing this factory at Chino.

C. C. HOWELL.

*Chino, Cal., November 28, 1894.*

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#### MONEY IN BEETS.

**How Mr. Gird, of Chino, Realized a Fortune and Populated a Once Desolate District—  
History of the Establishment of the Chino Beet Sugar Factory—How Indomitable  
Energy and Enterprise Overcame all Obstacles and Won the Fight.**

Sacramento Bee, December 6, 1894.

*To the Editor of the Bee*—SIR: For the last two days I have passed the most pleasant time in investigating the sugar beet industry since I started in this work last May, particularly so as the conditions here at Chino are more like the conditions at Sacramento, save and excepting the fact that there is more rainfall during the wet season in Sacramento Valley than there is in the Chino Valley; the rainfall being only 8½

inches for the past twelve months, the consequence is that the beet crop in this locality this year has been only about two thirds what it would have averaged had they had their usual amount of rainfall, which is about 19 inches.

#### NO LONGER AN EXPERIMENT.

The production of sugar from beets has already passed beyond the stage of experimentation in California, and must in time take rank ahead of all her industries, for there is more encouragement from it than there is from any other product of the soil. The economical necessity of saving to the country from \$130,000,000 to \$150,000,000 a year is important, when we have in California land that will produce a greater tonnage to the acre, carrying as high a percentage of saccharine matter as the sugar beets grown in any other country. Germany leads all other countries, and their average is about 12 tons of beets to the acre, carrying 14 per cent saccharine matter on an average, 80 per cent fine, while California's average is 12 tons of beets to the acre, carrying 15 per cent saccharine matter, 80 per cent fine.

At this point is a good place to determine the advantage that California has over any of the country east of the Sierra Nevada Mountains. The owners of this factory, the Oxners, of Philadelphia, own the two factories in Nebraska. They were all built about the same time. This factory has been increased three times in its capacity since 1891, and the Nebraska factories have remained as they were originally built. This year was a dry year in Nebraska, and they are only running one factory. There has been a drought here in Southern California this year, but they have two thirds of a crop in tons, and the beets run for the entire acreage 16 per cent saccharine matter, over 80 per cent fine.

This plant, as it now stands, has cost the company a million of dollars, and has done its share in demonstrating that the manufacture of sugar from beets is a success and beyond the stage of experimentation.

#### HISTORY OF THE CHINO FACTORY.

The readers of your paper will no doubt be much interested in knowing what benefits a sugar factory gives to an agricultural community such as surrounds Sacramento, and I cannot better illustrate these advantages than to explain to them the history of establishing this factory at Chino.

When the great boom was on in Southern California, about 1887, Richard Gird was owner of the Chino Valley Ranch and some surrounding property, in all about 50,000 acres. He subdivided 32,000 acres into ten-acre lots, ostensibly to sell out to small farmers to raise fruit. The boom bursted about the time he got started, and the scheme was a failure so far as selling out the property was concerned. Mr. Gird set himself about to find something to raise upon these lands that would be profitable for the settlers during the time they might be growing their orchards. Ramie, cañaigre, and sugar beets were tried, and in the experiments, running through the years 1888 and 1889, he planted of all three of these products, hundreds of different small patches all over this district of country at different seasons and at different times; he investigated at the same time not only the culture of these different products, but also the market, and it is interesting to know that sugar



beets were by far the most profitable and had the greatest future. Their growth and the increasing of their factories you could not hope to overdo for fifty years to come.

A factory for sugar would cost three times as much as a factory for treating either of the other products. Mr. Gird worked faithfully to get people in all parts of the country interested, and finally, about the last of December, 1890, a contract was made with the Oxnards, of Philadelphia, who had been in the sugar business, and their father before them, for a great many years. Their refineries had been sold to the sugar trust some months before, and they had been to Europe for some time looking up the beet sugar industry as it was carried on in that country. To get them interested, Mr. Gird gave them 2,500 acres of land and a site for their factory in Chino; guaranteeing, besides this bonus of land, which is said to be worth \$150 per acre (\$375,000), 2,200 acres of beets the first year, 3,000 the second year, 4,000 the third year, and 5,000 for the fourth and fifth years thereafter—five years being the life of the contract. He also agreed to furnish the factory 3,000,000 gallons of water per day, during the campaign, free. The price established to be paid for beets that carried 12 per cent in sugar was only \$3 50 per ton, and 25 cents per ton additional for each per cent of sugar above 12 per cent.

The first year was very unsatisfactory, in many respects, for both the factory and the producer, as the business was new. Mr. Gird had very hard work to get anybody to grow beets, and of the 2,200 acres of beets he had agreed to furnish the first year, he had to plant 1,600 acres himself in order to comply with his contract. The second year the factory did well and the producers did well, so this last year the entire acreage was planted by people who either had bought land and raised beets for the factory, or by his renting the land to people who were not able to purchase it, paying a quarter of the crop for the rent of the land, which has netted him for three years \$15 for each acre of beets that have been planted on the land rented of him.

Mr. Gird commenced selling a little land in 1892, and in 1893 about \$100,000 worth of land was sold in ten and twenty-acre tracts, at \$125 to \$150 per acre. And from the first of January, 1894, until the first of November, over \$250,000 worth of land in his ranch was sold to farmers, at \$140 to \$200 per acre. Within the last few days the balance of the land has been sold for \$1,600,000, excepting the town of Chino.

In 1891 there were about fifty people on this ranch; now there is about 2,500 people, and in about six years there will be 10,000 people. This tract of land Mr. Gird purchased in 1882 for \$225,000. It has cleared him about \$2,000,000, besides the interest on the investment during the time he has owned the ranch, and he has the use of it for a year to come, or that portion of it which he considers his stock farm, he taking that time to dispose of his stock. The new proprietors will take the contract off his hands to furnish beets to the factory for 1895 at the same old prices.

#### THE PRICE PAID FOR BEETS.

Your readers will notice that the price paid for the beets here is not as good as the price paid in any other part of the country, and still there is a number who are pioneers in the industry of raising beets here that have purchased their land and have it entirely paid for from

the profits, who had nothing to start with. The records of the fruit farmers in California cannot compare, in the amount of money made off their farms of the same size and investment, with the records of those who have raised beets. There is no questioning the assertion that the greatest field for the products of the soil in California, where properly adapted, is the growing of the sugar beet, and the manufacturing of it into sugar. Nothing would help Sacramento and the surrounding country and do as much good as an industry of this kind.

In my letter to-morrow I will give other reasons why a beet sugar factory is of value to Sacramento.

C. C. HOWELL.

Chino, November 30, 1894.

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#### VALUE OF SUGAR BEET PULP FOR BEEF CATTLE.

Sacramento Bee, December 7, 1894.

*To the Editor of the Bee*—SIR: The most valuable product, next to sugar, from a beet sugar manufactory is the pulp, which product is about 50 per cent of the tonnage of beets treated at the factory, and it sells here for \$1 per ton to farmers and outside dairymen, who come here to purchase the same. One concern at Riverside took one hundred cartloads for his dairy this season. Its value for a dairy can be better understood by giving you the contents of a letter received by Mr. Gird some time since from the President of the Staunton (Virginia) Chamber of Commerce, who established a small beet sugar factory there, which has been only a partial success so far as making sugar is concerned, the climatic conditions being against profitable beet growing in that country. He writes under date of May 15, 1893: "We began giving away the pulp from the beets when we first started this factory, but soon after began to sell it as it came from the diffusers at \$1 per ton. We put some of it away in silo, covered with lime paste, and sold that at \$2 per ton, but finding it selling so rapidly at that price, and wanting to keep some over until next September, we raised the price to \$3 per ton. It sold none the less rapidly, and it was soon exhausted. It proved a much more valuable food than we or any one here expected. The best results appeared when fed to milch cows. In no instance did it show an increase of less than half a gallon of milk, and in many cases two or three gallons per day, within ten days after being fed. Sheep and lambs also did well. We had no trial with beef cattle, hence we are desirous to know your results. I know when I fed the pulp to some milch cows already dried up, so that we might fatten them, it started the flow of milk again, and we had to abandon the idea of fattening them, and did not until the pulp was exhausted."

The value of pulp for beef cattle is well illustrated by a lot of twenty steers, as they would average on the Arizona range, which Mr. Gird put in a corral on the 16th of December, 1893, feeding them about 70 pounds of pulp per day each, and about 5 pounds of hay, hay being fed simply to give them a cud. When placed in the corral they weighed 40,465 pounds. After forty-eight days they were again weighed, and they had gained 2,660 pounds, or 133 pounds per head. A great number of tests show a gain of from 100 to 160 pounds a month. This year Mr. Gird built a silo capable of holding 20,000 pounds of pulp. It is simply an

immense trench in the ground, 60 feet wide, 10 feet deep, 500 feet long. Over this he built a railroad track, and cars are loaded at the factory automatically as the pulp leaves the diffusers, and then run down to the silo and dumped. This silo is drained by tiles laid underneath to carry off the moisture that accumulates. The pulp soon settles and solidifies into its natural siloed condition. They are taking it out and feeding it now, and it seemed to cut like cheese, and looked very much like soft clay. This has been tested now, so it is safe to calculate better results from the siloed pulp than when fed direct from the mill. You can keep it from year to year. When the pulp is laid away they sprinkle salt among it, and the cattle will eat it as readily as they would corn mush. The feed improves rather than loses any of its virtue, for at least a year after it is siloed.

Mr. Gird has from 500 to 700 head of cattle in his corrals all the time. It is very easy to discover the effects of this feed by examining the cattle and the time they have been eating this pulp. The worst old Arizona cows and steers will, in from sixty to ninety days, make good beef. He makes no effort to sell these cattle; buyers come here, take them by the corral, and pay half a cent more per pound than they do for any other kind of cattle that have been fed any other way. They claim that pulp-fed cattle make a firmer, tenderer, and better colored beef.

Hogs have been fed on sugar beets here and have done well. The raw beets with the tops are worth, it is claimed, in the field about \$2 per ton for hog feed, depending, of course, upon the price of pork.

Those who have carefully watched the feeding of beets to hogs and used the pork afterwards, say that it makes it as solid and firm as that from corn-fed hogs of Iowa.

I think sugar beet raising has been reduced to a better business proposition on the Chino plantation than in any other of the localities that I have visited where there are sugar factories. I also think the pulp product from the factory is made more valuable. This is largely due, however, to the very industrious interest taken in the business by Mr. Gird himself. I think beets are raised here on an average for \$20—that is largely owing to the special machinery contrived and put into practical use by Mr. Gird. So far as the factory here is concerned, as I have said before, they have gradually increased the factory until they have now facilities for treating 800 tons of beets a day. They have erected what is known as the Steffens process, at a cost of \$150,000, for treating one of the by-products (syrup) of the factory. I am inclined to believe that a small still connected with the factory whereby to convert this "syrup" into vinegar would be much more profitable. The Alvarado factory disposes of its "syrup" to the vinegar manufacturers in San Francisco, and it nets to the factory, I am inclined to believe, fully as much as is realized here from undertaking to get sugar out of it in a crystallized form. There is a plan on foot, which I believe is headed by Mr. Gird, and which assures its success, to build a pickle factory at Chino. This would be successful at Sacramento, for no county furnishes better soil for raising cucumbers, cauliflower, beans, onions, and there are now some olives, and will be more in that neighborhood. No doubt considerable of the vinegar could be sold at wholesale from so important a distributing point as Sacramento. Then some alcohol can be made for use in the oils.

C. C. HOWELL.

*Chino, December 1, 1894.*



## PRODUCTION OF SUGAR.

The Total Product of the Rest of the World as Compared With That of the United States.

Sacramento Bee, December 8, 1894.

To the Editor of the Bee—SIR: Few people realize what the sugar business of the world means. That your readers may get an idea of its importance in commerce, I will give them a statement of facts to study, gathered from authentic information that I have found in different localities between New York and the Pacific Coast, and it may enlighten them somewhat regarding this important staple. From July 1, 1893, to July 1, 1894 (a sugar year), there was produced in all countries of the world tons of sugar as follows:

	<i>Cane Sugar.</i>	Tons.
Cuba .....	.....	649,236
Porto Rico .....	.....	59,636
Trinidad .....	.....	47,870
Barbadoes .....	.....	71,373
Martinique .....	.....	36,022
Guadalupe .....	.....	47,527
Domarara .....	.....	116,114
Brazil .....	.....	150,000
Java .....	.....	331,851
Philippine Islands .....	.....	116,170
Mauritius .....	.....	123,985
Reunion .....	.....	36,375
Jamaica .....	.....	30,000
Lesser Antilles .....	.....	28,000
Peru .....	.....	30,000
Egypt .....	.....	35,000
Hawaii .....	.....	125,000
United States .....	.....	227,525
Total .....	.....	2,261,684

	<i>Beet Sugar.</i>	
Germany .....	.....	1,331,965
Austria .....	.....	753,076
France .....	.....	787,986
Russia .....	.....	456,711
Belgium .....	.....	221,480
Holland .....	.....	69,765
All other European countries .....	.....	66,000
United States .....	.....	13,542
Total .....	.....	3,700,525

	<i>Sorghum, Etc.</i>	
United States .....	.....(sorghum)	502
United States .....	.....(maple)	16,000
All other countries .....	.....(sorghum and maple)	56,000
Total maple and sorghum sugar .....	.....	72,502
World's total production .....	.....	6,034,711

The world's population was 1,600,000,000 during the sugar year above mentioned, and they consumed 7.54 pounds to each individual, at a cost of \$482,776,880. The United States consumed of this amount about 2,000,000 tons, and, assuming that we had 65,000,000 people, we consumed 61 pounds to each individual. (I notice that some statisticians give as high as 65 pounds to each individual in this country.) Sixty-one pounds, at 4 cents a pound, would be \$2 44 per capita, or

\$158,000,000 was paid out by the American people for sugar. Of this amount we produced \$20,009,120, and imported \$137,990,880 from other countries.

California has sufficient territory possessed of the proper soil and the climate to raise sugar beets, particularly to supply all the sugar that is now imported into this country.

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#### SUGAR CONSUMPTION.

It may be interesting to know how the sugar consumption has increased per capita in this country. In 1830 we consumed approximately 20 pounds; in 1840, 25 pounds; in 1850, 30 pounds; in 1860, 35 pounds; in 1870, 40 pounds; in 1880, 45 pounds; in 1890, 53 pounds; in 1893, 61 pounds.

On all sugar imported into this country, except that from Hawaii, there is imposed an ad valorem duty of 40 per cent. Say raw sugar in Germany costs 2.5 cents per pound, 40 per cent ad valorem plus 1 per cent (coming from a country paying a bounty to her sugar producers), the freight and hauling, marine insurance, weighing, exchange on the money in paying for it, broker's commission, etc., .75 cent, equal 4.35 cents per pound for German unrefined sugar laid down at the refinery in Eastern seaboard cities. To this you add the refiner's charges and freight to the consumers; the total is the cost of sugar to our people when imported from Germany. Prices of sugar at this time at the seaboard and in the East are very much interfered with, from the fact that the world scraped together and dumped upon this country all the raw sugar it was possible to get for months before the present tariff went into effect, and the market is very much disturbed. This will soon regulate itself, as the amount of sugar manufactured in the world is not in excess of the demands of its people.

#### MARKET PRICE AND IMPORTS.

The consumer in the interior of the country has to pay freight to his particular locality. Sugar usually runs one cent per pound higher on the Pacific than on the Atlantic coast. The market price of refined sugar in California and at all intermediate points is based on the New York price with freight added, ranging from  $\frac{1}{4}$  to  $1\frac{1}{4}$  cents per pound. The total receipts on the Pacific Coast in this sugar year which we are considering was shipped (raw sugar) from the Sandwich Islands, China, Central America, and all other countries, aggregating 139,430 tons. Adding what was produced on the coast and you have only about  $7\frac{1}{2}$  per cent of the sugar consumed in the United States for that year.

C. C. HOWELL.

*Los Angeles*, December 2, 1894.

## SUGAR IN BEETS.

Another Paper by C. C. Howell on the Manifold Advantages of Beet-Growing—California Well Adapted to that Industry—The Average Yield Per Acre.

Sacramento Bee, December 13, 1894.

*To the Editor of the Bee*—SIR: The sugar beet, being a biennial plant, native in the Mediterranean States of Europe, transplanted from the warm, dry region of Southern to the cooler and moister States of Northern Europe, and from these States to the North American States, grows more successfully in California than in any other part of the world. This is surely gratifying, and it is especially so when this locality is one of the best in California for such a staple industry.

Such is the condition of your climate, from your average rainfall, your dry and wet seasons, and the quality of your soils, that you can produce sugar beets to better advantage than anywhere in this State.

The European Commissioners, who were expert sugar beet growers in their own countries, visited all the States that were growing beets during their stay while attending on the World's Fair at Chicago. They said, on their return home, that California was the country that Europe had to fear from competition in raising beets for sugar. They also reported that we were raising beets as high in sugar and as cheap as they were raising them.

Some went so far as to advocate that they should not furnish us any of their choice seed. That measure, however, was abolished, and most of our seed comes from Germany and France. In time we will grow our own seed. It is a slow process, however, as all the mother beets are selected as to their proper form and size during the harvest, and sometimes as high as twenty thousand assays are made before enough beets are selected to reset one acre of land—none being used but the sweetest.

Sugar beets are white and parsnip-shaped, ranging in weight from one to two pounds, and grow wholly below the surface of the ground. The saccharine richness has been attained by building it up through a long period. A ton of sugar beets of to-day, in the improvements in quality and process of extraction, produces as much sugar as did three tons twenty-five years ago. Herein lies one of the elements of success of the sugar beet industry, and the other is the knowledge of manufacturing.

Sugar is a carbo-hydrate, and it is claimed that the sugar is taken from the sun and atmosphere; nothing is taken from the soil but moisture.

Cereal crops in Europe have increased very much since the introduction of the beet industry. The soil is well cultivated for beets and thus is brought to the surface the subsoil moisture and nourishment which would not be reached by the other crops; as only moisture is taken from the soil, and the crops are rotated, giving beets one year in three, they get two excellent crops of grain. In this country beets have been raised on the same fields for twelve years, and the lands are in as good condition as they were when first used; but the land should be rested after a few years by planting it to some other crop of roots or grain.

Sugar, being very soluble, makes the beet very sensitive during the time it is ripening and after it is ripe, if left in the ground. The climate here is especially an ideal one for raising beets. You always have the necessary rains in December, January, February, March, April, and May to prepare your land properly to plant your beets, which will



become well started before the dry weather comes; and then the dry, sunny weather sets in in July and August. They have absorbed the sugar during the maturing and ripening period, so that when they are harvested you have a beet high in saccharine matter. I have carefully examined your soils, the tables given of your rainfall and temperature, going back several years, and I am ready to prove that almost all your land can be used for beets. There are varieties of seeds well adapted to your low lands, your grain lands, and your uplands. Fifteen tons of beets, running 15 to 16 per cent in saccharine matter, with ordinary care can be raised on these lands; and on your bottom lands, when once properly fitted, I believe twenty-five tons will be the average if planted at the right season.

Getting the farmers to go into beet raising has always been dreaded by the factory owners, but when the farmers once get started and understand the business there is no trouble. It takes about three years to get them properly educated.

Growing beets means much labor to the county. Like any other plant it requires close attention. It is an industry well adapted to families, and adds an interest to diversified farming, which is really the only kind for the prosperity of an agricultural country like this.

Among the many hundred sugar plants there are but four that are profitable to consider: Maple tree, sorghum, beet, and tropical cane. It is well demonstrated that the beet is going to produce most of the sugar in a few years. The others cannot compete with it. If the same improvement goes on in the next twenty-five years as there has taken place in the past twenty-five years, there will be no other kind of sugar but beet. All nations in the world, as they become civilized, are increasing the quantity of sugar they use per capita. Great Britain uses as much as we do, and other nations are following with a regular increase of consumption annually.

Sacramento's prosperity and great growth must come from filling up the country north, east, and west of her. She is the natural metropolis for that section. This can only be done rapidly by creating occupations for people you may attract here. The most desirable are those who can work and have some money; but if there is no market for what they raise disaster must follow. As Sacramento would expect to get the trade from these people, she should establish institutions that will make a market for profitable labor. Thirty thousand people over what you have to-day should be domiciled within a trading distance of this city. To insure a successful people for your vacant land can you establish anything that will give a greater industry than that of sugar? It helps all—the farmer, the landowner, the merchant, and the laborer.

C. C. HOWELL.

*Sacramento, December 11, 1894.*

## PROFIT IN BEETS.

**Cost by Items of Running a Sugar Factory—An Average One Would Add 1,000 People—What C. C. Howell Sees in the Beet Sugar Industry for Sacramento City and County.**

Sacramento Bee, December 18, 1894.

*To the Editor of the Bee*—SIR: I am asked what it costs to start the beet sugar business here, and if started how it would help Sacramento.

To start the beet sugar business as it should be started here, there should be a company organized, with a capital stock of \$1,000,000, half of which should be subscribed by responsible people and paid in as needed. They should purchase at least fifty acres of ground, well located on the railroad and river, and erect thereon buildings (fireproof) sufficiently large to treat 1,000 tons of beets a day during a campaign of 120 days. Machinery should be placed therein to treat 334 tons of beets each day for the first campaign. After the second year they could increase, and within four years would be able to treat 1,000 tons daily.

After that time diffusers could be erected through the neighborhood, convenient to the beet-growers, the beet juice separated there from the pulp, and by means of a pipe-line conducted to this parent plant. In that way the manufacture of sugar, distilling of the syrup into vinegar and alcohol, cooperage, etc., could be handled at the original plant for the culture of 20,000 acres, and the plant would grow as the acreage did.

Chino and Watsonville, in this State, have applications for more than double the amount of beets for the capacity of their factories for another year, and they have increased every year since they started, except the first two years. On account of the market here, and the well-adapted country for the raw material, a much greater industry could be built up than at any other point in the State.

## NUMBER OF EMPLOYÉS IN AND ABOUT A FACTORY.

As to how this industry will help Sacramento, I will give a detailed statement of the number of men required in and about the factory during the year and during the sugar campaign; the number of men it will take to raise the beets and material from seed and used at the first factory, assuming that it will treat 334 tons a day for 120 days, and that the beets only average 12 tons to the acre, and run but 14 per cent in sugar. This conservative estimate allows for bad luck, bad years, and is a little less than the average for California farmers raising beets for the past four years.

*Employed by the Year in and about the Factory.*

	Per Year.
One Secretary and Manager .....	\$4,200 00
One Superintendent .....	4,200 00
One bookkeeper .....	1,800 00
One chemist .....	1,500 00
One night assistant chemist .....	900 00
Two foremen .....	1,800 00
Two sugar boilers .....	1,680 00
One watchman .....	600 00
One engineer .....	1,800 00
One night assistant engineer .....	1,080 00
One stockkeeper .....	900 00
One carpenter .....	840 00
One distiller .....	1,800 00
One assistant distiller .....	1,200 00
Eight coopers .....	7,680 00

Ten laborers .....	\$6,000 00
One stock superintendent .....	1,800 00
One assistant superintendent .....	1,200 00
Four cowboys .....	2,880 00
Three feeders .....	1,800 00
Forty-three men receive as wages .....	\$45,660 00

*Employed during the Factory Campaign—120 Days.*

Beet Delivery—	Per Day.	Per Year.
One weigher .....	\$2 50	\$300 00
Two bookkeepers .....	2 50	600 00
One superintendent of delivery .....	2 50	300 00
Testing Beets—		
One polarizer .....	3 00	360 00
One sampler .....	2 00	240 00
Two assistant samplers .....	1 50	360 00
Factory Hands—		
Four at beet sheds .....	2 00	960 00
Two at beet-cutting machine .....	2 40	576 00
Two at diffusing battery, foremen .....	3 00	720 00
Two at diffusing battery, spoutsmen .....	2 40	576 00
Two at diffusing battery, pulpmen .....	2 40	576 00
Two at calorisor .....	2 40	576 00
Two at first carbonator .....	2 40	576 00
Two at second carbonator .....	2 40	576 00
Two at filter presses, foremen .....	3 00	680 00
Eight at filter presses .....	2 40	1,920 00
Four at saturators .....	2 40	1,552 00
Two at evaporators .....	2 40	576 00
Eight at centrifugals .....	2 40	2,304 00
Two packers .....	2 40	576 00
Two tenders .....	2 40	576 00
Two markers .....	2 40	576 00
Two limekiln men .....	3 00	720 00
Two limekiln helpers .....	2 40	576 00
Two lime mixers .....	2 40	576 00
Four oilers .....	2 50	1,200 00
Two firemen .....	3 00	720 00
Four stokers .....	2 00	960 00
One beet-knife sharpener .....	2 25	270 00
Four general laborers .....	2 00	960 00

*Totals.*

Seventy-seven men during factory campaign .....	\$21,018 00
Forty-three men employed by the year .....	45,660 00
Total paid in wages at the factory .....	\$66,678 00

To produce 40,080 tons of beets, sufficient for 120 days' campaign, assuming that the farmer produces 12 tons to the acre, which only run 14 per cent saccharine matter, they will have cost him to raise, \$2 07 per ton.

Actual cost of labor, 50 cents ton; seed, \$2 16 acre, 18 cents ton; rent of land, \$10 acre, 83½ cents ton; delivery to factory, 50 cents ton; interest on farming tools, etc., 5½ cents ton; total cost per ton beets, \$2 07; 40,080 multiplied by \$2 07 equals \$82,965 60; total labor account, about \$150,000. To this you can add 20,000 tons lone coal at \$1 75, \$35,000; 228 tons coke from your gas company, at \$8, \$2,304; 2,400 tons lime rock from Folsom, at \$2, \$4,800; total, \$42,104.

A sum of \$200,000 is not far from what a factory would pay out to labor for a capacity of treating 334 tons of beets each day for 120 days. When this business has increased to 1,000 tons for 120 days, its commercial influence would be more than any other thing that could be procured here for the same money.

Perhaps it would be well to consider how much profit there would be



to the producers of these beets. At \$3 50 per ton for 12 per cent beets, and 40 cents additional for each 1 per cent above 12, would be \$4 30 a ton, or a clear profit to the raiser of \$2 23 a ton, after paying \$10 an acre rent for his land. On the year's crop (40,080 tons) there would be \$89,378 40 in profit to the farmers.

On an average I find that one man attends ten acres of beets, and the average for each ten acres is three persons, making about 1,000 inhabitants sustained directly by a 334-ton factory.

Besides, there are some other calculations—new homes to build for these new settlers, agricultural implements to sell, clothing, etc.

But another view of the matter will show that if these people in this neighborhood want to sell their land to the small farmer, see how he will be fixed to pay for this land. He raises this beet crop on a fixed contract from the factory before his seed is in the ground, and is not subject to the market fluctuation. If he has several children he can perhaps care for twenty or thirty acres of beets. But assuming a man only has ten acres: he gets for his labor, \$180; interest on his team, wear and tear of his wagons, \$7 60, and \$60 for their use in taking beets to the factory. But, after paying for the rent of his land, he has \$267 60 profit. And besides the care of his ten acres, if he is industrious, he can support himself and family from his garden, hens, etc., and he has much time at many seasons of the year to earn other money.

In no place in the world could a poor man make such an independent living as here, if this industry could be once started.

This county could put \$5,000 at least each year for taxes from this plant into the treasury, and at least another \$5,000 from the taxable property that would be added by new settlers.

C. C. HOWELL.

*Sacramento, December 18, 1894.*

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#### PRICE OF CHINO VALLEY BEET LANDS—SUGAR BEETS vs. FRUIT.

C. C. HOWELL, Esq., *Sacramento, Cal.:*

DEAR SIR: In reply to your favor of the 2d inst., making inquiries as to the extent to which the sugar beet and beet sugar industry have increased the value of land in this vicinity, and the comparative value of sugar beets and fruits to farmers, I have to say:

In giving a comparison of the price of land here at present with that before the establishing of the sugar factory, the correct figures must be those of actual producing value, and not fictitious boom prices. Several years before the location of the sugar factory here this country was treated to a real estate boom, which inflated the prices of all land far beyond its productive value. The intrinsic value of land, however, should be taken as the price at which the products which are or can be raised, marketed, or sold from the soil, will pay a reasonable interest on the investment.

Prior to the establishment of the sugar industry on the Chino Ranch, the products of our soil were hay, grain, potatoes, corn, etc., with a large area (now farmed in beets) used for grazing. These products went upon the market in competition with the same articles produced from the

general farming lands all over California. Every farmer knows that such a market is uncertain, fluctuating, and often unprofitable. I believe that a fair and liberal estimate of the value of the Chino Ranch lands made on this basis would be not exceeding \$60 an acre.

At the present date, after our farmers have had four years' experience in raising sugar beets, this land sells for and is considered worth from \$100 to \$200 an acre—averaging fully \$150. At this price our farmers are not only making a comfortable living, but calculate on and are paying the purchase price of their farms in from three to four years, from the products of the soil. The sugar beet offers to the farmer a certain market and a certain price for the product of his labor, on which he can calculate with some degree of certainty the possibilities of successful home-building. I consider the increase in the value of Chino Ranch lands, as indicated above, to be directly and entirely the result of locating the sugar industry here.

A comparison of the profits of sugar beet growing with those of fruit raising is somewhat more difficult to arrive at. There is, however, a much greater degree of certainty in the production of a crop, in the market, and in the price of beets than in ordinary fruit crops.

One considerable advantage which the beet farmer possesses over the fruit grower is that in six months after planting the seed he realizes on his crop, and does this without the intervention of middlemen.

During the past two months applications have been made by farmers here for leases on several hundreds of acres of land more than could be furnished them.

I feel entirely safe in saying that the average beet farmer on the Chino Ranch would not be willing to exchange his prospects here for fruit growing with an equal capital invested.

Please call on me for any definite information I may be able to furnish at any time. Trusting you may be able to establish a beet sugar factory at Sacramento that will be a blessing to hundreds of people, and wishing your Association ample success in its commendable work,

I remain very truly yours,

EDWIN RHODES.

*Chino, Cal., January 7, 1895.*

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**PROFESSOR HILGARD ON THE FAILURE OF THE BEET-SUGAR FACTORY AT  
BRIGHTON, SACRAMENTO COUNTY.**

C. C. HOWELL, Esq., *Manager Sacramento Industrial Improvement Association, Sacramento:*

DEAR SIR: Answering yours of the 2d inst., I state that I have no personal knowledge of the quality of the beets that were worked at Brighton, but did assay those grown at Isleton, and found them to be of the very highest quality, as stated in my report made at the time. None better anywhere.

I feel quite confident from what I heard at the time that the factory failed for want of proper management. At that time the idea was not so much to make sugar as to sell the stock of the concern and "unload." The machinery, moreover, was poor and was managed by incompetent hands.

The idea that the heat of July and August would forbid beet growing is based upon the conditions under which beets are grown in Europe, in a totally different climate. To exemplify: In 1892, a five weeks' drought in Germany caused most of the fruit in the orchards to fall, and the beet crop was badly damaged. With us, a five *months'* drought does not cause the fruit to fall, as we know pretty well by this time. I have had good sugar beets from Fresno, grown by irrigation; but so much depends on the right handling of the water that I would not for the present advise growing beets, otherwise than experimentally, where irrigation is required. But in the naturally moist sediment or bench lands of the Sacramento Valley there should be no more difficulty in growing good beets than at Chino.

Very truly yours,

E. W. HILGARD.

Berkeley, January 25, 1895.

### MONEY IN SUGAR BEETS.

**California the Place for Factories—The Beets Produce Better and Are Sweeter—The Industry Gives Employment to Hundreds of People—Why Some Factories Failed.**

Sacramento Bee, February 23, 1895.

*To the Editor of the Bee*—SIR: In closing my articles on the beet sugar industry I wish to lay before your readers a few facts that may be important for them to study, especially those who are interested in building up the country upon a solid basis, which can only be done by creating lucrative employment for people.

I have said that California can produce beet sugar cheaper than any other State, on account of her climate and soil. Not that her soil is so very much better, but the meteorological conditions are better; her temperature, sunshine, and rainfall, coming as they do at certain seasons, exercise the most pronounced influence, not only on the yield of her beets in tonnage, but also on their saccharine quality. At Vacaville I am told that the land is worth and has paid double what any other land in the State has paid in profits by raising the apricot. This is owing to certain practical conditions and scientific causes, the same as there are practical conditions and scientific causes why the Sacramento and San Joaquin Valleys are superior to any other portion of the State for raising the sugar beet.

I may be better understood in this article by referring your readers to the Government report on the average number of tons of beets treated to produce a ton of sugar (of 2,000 pounds) for the years 1891, 1892, and 1893—those years that the beet sugar factories were licensed by the Government, under the McKinley law, which was passed by Congress October 6, 1890: 6.56 tons beets treated at Chino, California, produced 2,000 pounds sugar; 8.40 tons beets treated at Watsonville, California, produced 2,000 pounds sugar; 9.09 tons beets treated at Alvarado, California, produced 2,000 pounds sugar.

This practical record for the sugar years, from actual results of these successful factories, verifies my assertions. The Government paid a bounty on these figures, and there is no mistake as to the fact of my statement. I know it will be said: "How does this prove that the



Sacramento Valley is superior to any of these other localities in California?" My answer is because:

First—You have the same dry, sunny, even temperature at the right period of the year that they have in Southern California for ripening and maturing beets rich in sugar, and without the liability of early rains, as they often occur, to affect the beet crop on the coast, at Watsonville, or around San Francisco Bay. For instance, look into their troubles this year, and you will find that such early rains have not existed here but once in twenty years sufficient to injure the sugar in the beet.

Second—You have all the necessary rainfall at the proper season for preparing the land and giving the best life-strength for a perfect growth before it is ready for constant daily sunshine—a condition in the southern part of the State that but frequently occurs. This last year's crop fell short in acreage one half. A study of the physical data compiled by the engineering department of the State of California will furnish you facts to prove that there has been no year in the past twenty that a full beet crop could not have been raised on the bottom or moist lands of this valley from lack of sufficient rainfall.

Third—Sugar beets were raised here for the Brighton factory from 1871 to 1876, and the records kept at that time show that the quality of the beets was much better at that early period than the beets are to-day in Southern California, considering strength of sugar and acreage together. True, the management at Brighton did not get the sugar out of the beets, but the beets were produced—the soil and conditions furnished the raw material for manufacturing sugar superior, at that time, to any other place in the world.

Fourth—A great number of persons near here have raised sugar beets for feeding their stock. The letter of Mr. Murphy, of Perkins, already published, shows that for over twenty years he never has failed in raising a large crop, even when he planted them as late as April. At the Government station on Union Island last year the five acres of sugar beets planted under the direction of Professor E. J. Wickson, by authority of the Secretary of Agriculture, averaged as high in sugar as those raised at Chino; besides, their yield was over 40 tons of beets to the acre, while Chino Ranch beets only averaged 10 tons to the acre last year, on account of the small amount of rainfall during the fall of 1893 and the winter of 1894. The beets referred to on Union Island were not planted until June—an unprecedented thing in beet growth; and, as Professor Wickson puts it, "It is very significant indeed" that it should be so, and would be if the people here understood the conditions as they exist to make this a great sugar manufacturing center.

Fifth—While your climatic conditions are as near perfect here as it is possible to get them, the alkalis in your soils are largely nitrates—those elements for which, in the form of fertilizers, Germany, France, and other States of Europe pay out millions of dollars every year to supply the necessary mineral and alkaline salts which must be had to insure a profitable crop.

Professor Hilgard, of the State University, who has charge of the Government's Southern California Experiment Station, recently made a series of experiments upon beets grown in the moist, damp, black alkaline soils on the Chino Ranch, where heretofore there was much doubt expressed as to the possibility of ever raising sugar beets in such land.

These experiments, however, have proved very satisfactory, as well as those in this county.

These alkali lands are entirely suited for sugar beet growth, and there is no end to the time that these mineral elements will last in the soil for the profitable culture of the beet plant. These experiments on the different soils showed a large amount of nitrate of soda, which is the greatest fertilizer in the world. These are only a part of my reasons.

I will now consider California as a whole for producing beet sugar, and will for that purpose consider the beets grown at Chino, Watsonville, and Alvarado. Perhaps I should say that up to the time the present Secretary of Agriculture was confirmed, the Government pursued the policy of promoting all agricultural products, hoping in time to do away with importing that which we can raise as well as our foreign neighbors, and to that end the department, through its Division of Chemistry, sent out thousands of pounds of different kinds of sugar beet seed. They have been sent to hundreds of persons in twenty-eight different States and Territories. These seeds were planted under the direction of the Division of Chemistry, and when they were matured and ripe the beets were sent to some Government station and tested. As to their strength, these results have all been published in bulletins each year by the Department, and from a careful study of these facts as gathered, California stands in the first rank for raising beets richest in sugar and greatest in tonnage. Eastern Washington is second, Nebraska third, Kansas fourth, Utah and Colorado fifth, and so on all along until the States take their proper stand, most of them ranking below a condition where they could grow the beet and manufacture the sugar in competition with the few favored localities in this great country.

But as these tests are not so reliable as practical comparisons for actual results, I will call your attention to the four States that have had beet sugar factories in operation since 1890 and 1891, working under a license and receiving a bounty of 2 cents a pound until the Wilson-Gorman tariff bill went into effect previous to the sugar campaign of 1894.

*Example.*

7.69 tons California beets produced one ton (2,000 pounds) granulated sugar.  
11.36 tons Nebraska beets produced one ton (2,000 pounds) granulated sugar.  
13.07 tons Utah beets produced one ton (2,000 pounds) granulated sugar.  
13.88 tons Virginia beets produced one ton (2,000 pounds) granulated sugar.

It will be seen from this showing that California and Nebraska have produced the largest quantity of sugar from a ton of beets, taking the beets as they averaged for the three years while the Government had charge of the factory products by keeping the record so that false returns would not be made and the Government defrauded. I will make my calculations from the beets produced in California and Nebraska.

The cost of raising a ton of beets varies somewhat, so I will have to assume that there is but 12 tons of beets to the acre. In that case they can be produced readily for conveyance to the factory for \$2 a ton, either in California or Nebraska (that is, averaging the entire crop, covering California and Nebraska). They would average for the run of a factory 50 cents a ton for transportation, and the farmer would make \$1 50 net profit on each ton, allowing for all expenses in producing and delivering his beets, at \$4 a ton at the factory. Of course, this valley ought to raise 25 to 50 tons to the acre, and will when properly cared for and handled

with the same intelligence that fruit is handled where producers have been successful.

*Example.*

Cost of 7.69 tons beets in California, at \$4 per ton.....	\$30 76
Cost of manufacturing 2,000 pounds sugar in California, at 1¼ cents per pound..	25 00
Freight on 2,000 pounds sugar to Missouri River points, at carload rates.....	1 20
Total cost of delivering 2,000 pounds of sugar at Missouri River points.....	\$56 96
Cost of 11.36 tons of beets in Nebraska, at \$4 per ton.....	\$45 44
Cost of manufacturing 2,000 pounds sugar in Nebraska, at 1¼ cents per pound..	35 00
Total .....	\$80 44

Assuming these figures to be correct, the California producer or manufacturer lays one ton (2,000 pounds) of sugar down at Missouri River distributing stations in competition with his Nebraska neighbor for \$23 48 less than the Nebraska man can produce his for f. o. b. at his factory.

You will notice that I have charged 1½ cents per pound to the manufacturer of beet sugar in Nebraska, and 1¼ cents a pound in California; but you will also observe, to produce a ton of sugar, Nebraska has to treat 3.67 tons of beets more than California, and the less sugar and purity the more fuel and labor used; consequently, there is really more than half a cent a pound difference after allowing them a price for coal at half the cost of yours, and your lignite coal, where the proper fire-boxes and grates are arranged, can be used to a profit. This problem is figured out from the footings of the factories ending the sugar year for 1890, 1891, 1892, and 1893. I would be very glad to explain personally at this office, during my stay here, the result of the campaign at all the sugar beet factories in this country that have been operated for the year 1894, so far as they have settled their 1894 business. All factories except the Spreckels or Watsonville factory have closed their works, and I have their reports on the year's business. My relations became such with these managers and superintendents while I personally investigated these factories for the Directors of this Association, that they have freely furnished me with such information as I desired. They seemed to be interested in having the sugar industry placed before the people correctly, and when they found I wished to get such facts regarding the business that would not misrepresent it, I had no trouble getting the desired information. The study of this work has been a most pleasant one, as it is of a high order, and much more so than any other branch of agriculture I have ever studied.

On my return East I should take up this work, but the country east of the Rocky Mountains, as things stand to-day, is not in it with the country west, and none can compare, not even the eastern portion, with California. Eventually this will be understood, and at some place in this valley or in the San Joaquin Valley there will be a great city built up from this industry.

C. C. HOWELL.

*Sacramento, February 10, 1895.*



## ANALYSIS OF SUGAR BEETS.

The College of Agriculture, University of California, will Make Free Analyses of Beet Samples Grown as Tests.

ED. R. HAMILTON, *Sacramento Bank, Sacramento, California:*

DEAR SIR: In response to yours of the 28th ult., I state as regards analyses of beet samples grown as tests, that they are made free by this Station, provided we receive with them such data regarding location, lay, and nature of the land, soil, etc., as will enable us to make our report of public utility. We also require the date of planting and thinning and of harvesting, together with any other information that may throw light upon the development of the beet crop.

The sample should, as a rule, consist of not less than six beets, selected so as to give a fair average of the crop. In distributing seed the recipients should be specially instructed that plants should never be more than nine inches apart in the row, and preferably less, in order to prevent their becoming of larger size than two pounds as a maximum; one pound being preferable for high quality.

As a general thing, it is not advisable at this time to plant beets on other than sediment or lands easily worked and kept in good tilth through the season, and with natural moisture to do without irrigation, but not with water closer to the surface than four feet, since too much water deteriorates seriously the quality of the root, and the dryness naturally supervening in California about harvest time (August to October) forms an essentially favorable condition for beet culture in California.

For more particulars on the latter subject, I refer you to an article contributed by myself to *The Overland Monthly* for December, 1886, from which, though written nine years since, I have nothing to subtract. I could only emphasize my favorable opinion regarding the prospects of the industry in California, which have been abundantly confirmed by subsequent development.

One unexpected development has been the fact that very high grade beets have been grown on soils slightly tainted with alkali, like some of the lower portions of the Chino Ranch, contrary to the received ideas of the effects of saline lands on the sugar contents and quality of the beets, which are based on experience on seashore soils. "White" alkali, that is, Glauber's salt, does not appear to interfere to any serious degree with the quality of the sugar beet when present to an extent not exceeding two tenths of one per cent, yet I would not advise the use of such lands as a matter of preference.

Respectfully yours,

E. W. HILGARD.

*Berkeley, December 4, 1895.*

## THE CONSUMPTION OF SUGAR.

[Extract from the article on "The Sugar Beet Industry of California," contributed by Professor Hilgard to the Overland Monthly for December, 1886.]

The tables below,\* showing the consumption of sugar *per capita* during different periods and in different countries, may serve to allay the apprehensions of those who fear that sugar will shortly become a drug in the markets of the world:

*Consumption of Sugar in the United States, Per Capita, from 1867 to 1884, inclusive.*

Year.	Lbs.	Year.	Lbs.
1867	28.9	1876	37.1
1868	32.9	1877	36.2
1869	34.0	1878	36.0
1870	35.3	1879	38.3
1871	39.9	1880	41.2
1872	39.9	1881	43.9
1873	39.9	1882	45.7
1874	41.1	1883	48.2
1875	39.5	1884	51.4

*Consumption of Sugar in England, Per Capita, from 1876 to 1884, inclusive.*

Year.	Lbs.	Year.	Lbs.
1876	59.0	1881	64.0
1877	56.0	1882	63.0
1878	62.0	1883	67.0
1879	62.0	1884	67.0
1880	62.0		

*Consumption of Sugar, Per Head, in Various Countries.*

Countries.	Year.	Lbs.
United States	1884	56.0
England	1884	67.0
France	1881	25.0
Germany	1881	18.0
Holland	1881	18.5
Austria	1881	13.0
Russia	1881	7.7

Two prominent facts are shown by the above tables. The first is that in the United States and in England the consumption of sugar increases in a much more rapid ratio than the population, and similar tables show the same to be true of all European countries at least. Regarding the showing here made, Professor Wiley says: "From 1876 to 1885 the consumption of sugar in England rose from 59 to 67 pounds per head. During the same period in the United States the increase was from 37.1 to 51.4 pounds per head. At this rate of increase in another decade the quantity of sugar required for each inhabitant will be as great in this country as in England, viz., about 75 pounds. But our population is increasing much more rapidly than that of England, and in ten years from this time it will be nearly seventy millions, and the amount of sugar used in this country will be five thousand millions of pounds! This country will be the great sugar market of the world." The only possible flaw in this reasoning might be that there is probably a natural limit to the possibility of sugar consumption, even by the American boy and his elders, but it is not likely that that limit will be reached within this century.

The other point, shown in the third table, is that if sugar consumption is not, like that of soap, to be considered the criterion of the most civil-

\* See Bulletin No. 5 of the chemical division of the Department of Agriculture: By H. W. Wiley, 1885, pp 11 to 13.

ized nations, it seems certainly to follow closely the ratio of their progressiveness and commercial relations with the world at large. Thus England stands at the head and Russia at the foot of the scale. But if this is true it inevitably follows that as social progress and intercommunication of all nations advance (and that this will be the case no sane person will question) an increase of sugar consumption will be sure to follow. The time between the present and that when the sugar consumption of all nations shall have reached its natural maximum, would seem to offer an ample margin of safety against a glutting of the market for some generations to come.

In connection with the above figures of prospective consumption of sugar, it is of interest to consider the possible production of beet sugar in this State. Taking as an example only the region within which the sugar beet is known to attain its highest degree of excellence, viz., the Alameda plains and the Santa Clara Valley within the limits of the two counties of the same names, lying within immediate reach of the bay and city of San Francisco, we have an area of about 380,000 acres, of which (excluding the heavy adobe, saline, and very gravelly lands) at least one half, or 190,000 acres, is well adapted to sugar beet culture, and each acre of which can readily produce 4,000 pounds of refined sugar. This gives for the possible production of these two counties alone the enormous sum of 760,000,000 pounds. The Coast Range valleys could quadruple this production; and if, as is probable, at least the middle and northern portions of the Sacramento Valley can also be counted on for beet sugar culture, California alone could readily supply the entire present and prospective sugar consumption of the United States, and still leave ample room for orchards and vineyards and the production of the home supply of breadstuffs. It is perhaps not probable or desirable that this one branch of production should be pushed to this extent; but it would be strange indeed if, with such extraordinary climatic advantages, it failed to attain a very prominent and lucrative position among the agricultural industries of California.

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E. W. HILGARD.

#### SOIL ADAPTED TO THE CULTURE OF SUGAR BEETS.

What the General Manager of the Chino Ranch Company Says upon This Subject.

ED. R. HAMILTON, ESQ., *Cashier Sacramento Bank, Sacramento, Cal.:*

DEAR SIR: Regarding the soil adapted to sugar beets, the first essential is a loam that will permit the penetration of the beet root deep into the soil, and also allow the harvest to be made without great loss by what we class as "tare"; that is to say, beets grown in loam are easily extracted from the ground by a beet-puller or plow, made expressly for that purpose. Whereas, beets grown in land carrying very much adobe or clay are very hard to get out of the ground in the fall of the year, or in mid-summer, when the beet root is ripe, the great loss being made by the beet root breaking off, and an additional expense connected with the harvesting from such soil by the adherence of this soil to the beet, upon which the farmer indirectly pays freight in hauling, or if shipping by rail, he pays railroad freight; hence, I say, the first requisite is a rich loam.

Secondly, a sufficiency of sub-moisture to enable the beet to mature.



So far as we have been able to determine, land classed as "cienega" land is the best. In the spring there appears to be on our lands in Chino an almost superabundance of water, and frequently the crop is gotten in under great difficulties.

As quick as the plant begins to develop it exhausts from the land all the water upon the surface, of course aided by the evaporation caused by the sun's direct rays. As the surface grows dry, the tap-root of the plant forces its way down, finding the necessary moisture below, and when the harvest is made the fields, as a rule, are as dry as powder, but the little thin tap-root has penetrated until it has found all the moisture necessary to fully mature the root.

The lack of moisture on the surface also aids in the development of the beet root, because it discourages the tendency of the plant to develop rootlets or spongols (as I think they are called technically) which grow out near the top of the beet, detracting from the general appearance, making more tare (as these are cut off and thrown away), and reducing the saccharine qualities.

We have found that the beet containing the most sugar is smooth and well shaped, tapering to a long, slender point.

Now, it is the contrary with beets grown under a system of irrigation, even in the best of soil. It is, in my judgment, impossible to apply the water at precisely the proper moment, or in proper quantity to keep the land uniformly moist; if there is a little too much water you will check the growth of the plant, and if not enough water the plant will commence the ripening process, when the next application of water will again start a new growth, and the result will be a low percentage of sugar in the beet, so as to make it very unprofitable. Then, again, the application of water to the surface (which is the only way you can irrigate) causes the development of those rootlets growing from the top of the beet as before remarked, as being dangerous to the value of the root. Hence it is very clear to us and to all who have watched the culture of the sugar beet root that naturally moist land is almost an essential. Of course a test can be made, and then the fears we have expressed may all prove to be groundless. I simply throw them out to put you on your guard.

If you undertake to grow beets in any considerable quantity with sufficient acreage to test the thing thoroughly, it would be wise to plant enough so you could afford to get a good man to superintend the whole thing, so that it might be done in so thorough a manner as to insure success. It is the most "intense" farming in America.

The following are the different varieties grown upon this ranch:

Vilmorin Ameliorée: A French seed raised by Andrieux Vilmorin, of Paris, France. This is the sweetest sugar beet known, and is best adapted to our loose, moister lands, as it will not grow too large on account of the moisture, and retains its high percentage of sugar.

Klein Wanzlebener ("Improved" and "Original"): Best adapted to the semi-moist sandy loam.

G. D. W. I. (Gebruder Dippe): Also a Klein Wanzlebener, and is the best beet for the heavy, black lands that are harder to penetrate and not so deep, as it assumes more the shape of the turnip, at the same time giving good tonnage and sugar.

This latter beet is the best all around beet we have ever had for all kinds of soils, and when in doubt as to which variety to plant will nearly always give good results.

The only way to be sure of obtaining good seed is to purchase direct from France and Germany. I don't think we will be able to furnish you with any, as our orders placed in Europe some time ago for the crop of 1896 were only sufficient to supply the acreage we intend to plant here—namely, some 7,000 acres. You might be able to get some of Spreckels, at Watsonville.

Soaking seed is not generally done, except where missing places in the rows require replanting, and then it is not always done. In some instances, if the land be very warm and a little dry on the surface, it is well to soak the seed just previous to planting, then the germ will start quickly enough to catch up with the other plants, making a uniform harvest.

For your general information with regard to movements in land of this class, which land is classed by the establishment of this great industry in Chino, I will say that since October 1st we have sold nearly 1,200 acres of land, in small holdings, for the aggregate amount of \$192,000. This could never have been done under ordinary circumstances, as the buyers are principally men who have been renters for one or more years previous. It speaks a "library" as to the intrinsic value of the lands and the profitableness of the sugar beet root as an annual crop.

Very truly yours,

W. H. HOLABIRD,  
General Manager.

*Chino, Cal., December 4, 1895.*

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#### SUGAR BEET CULTURE.

##### Circular of Instructions Issued by the Alameda Sugar Company of Alvarado.

The beet demands a soil easy to till, one that is loose and pliable, but not too sandy. It is also indispensable that the soil should be prepared by deep plowing a month or two previous to seeding—one deep furrow of 12 or 14 inches, or with two plowings, one of about 9 inches, followed by a deeper one of 6 to 8 inches below the first by means of a subsoil plow. This work, done in the early winter, has the advantage of allowing frost and atmospheric influence to destroy the cohesion of the soil, and, at the same time, to destroy any insects which may be present. In the spring the earth should be well settled down and rendered homogeneous, but not packed. This may be accomplished by working with roller and harrow.

As it is desirable to have beets with as few rootlets as possible, and of good conical shape, the point of the root must be allowed to penetrate the earth without resistance. Deeply worked and homogeneous soil allows the beet to develop itself to a good size without crowding itself out of ground, and by these means one obtains a large product, both in weight and in sugar.

In many soils, by deep plowing, a sour clay is brought to the surface, which is injurious to the vegetation of the beet, on account of its acidity. This should be neutralized by the use of lime in about the proportion of two tons per acre.

In all wet soils proper drainage is also necessary.

## FERTILIZERS.

If fertilizers are used it should be before sowing the beets. Stable manure should be spread before winter, in August and September, if possible. It is indispensable that it should be well broken up before plowing. Manure with a great deal of unrotted straw produces, generally, beets which are forked, rooty, and do not keep well. If other fertilizers are used, as superphosphates, they should be in powder, and spread as soon as possible in spring. Nitrogenous fertilizers, such as sulphate of ammonia, nitrate of soda, guano, etc., should only be used a few days before sowing on a warm or sunshiny day.

## SEEDING.

The quantity of seed used per acre ought never to be less than ten pounds. In many cases, when the soil is cold, or when fear exists that the plants may be eaten by worms, it will be necessary to use a larger quantity. It is desirable that when the plants come up they should nearly touch each other, but there is no necessity to overcrowd, as this occasions extra labor in thinning out. Or the seed may be planted at a distance of 3 or 4 inches in the rows in groups of three or four seeds. The seed may be planted in rows of 10, 12, or 14 inches apart, if it is intended to weed out by hand; and at 18 and 20 inches when it is desired to use the horse hoe. The sowing machine or drill should be arranged in such a manner that the seed is placed in moist soil below the surface. The least covering of earth is sufficient to sprout it. We cannot insist too strongly on this point; *seeds buried too deep invariably give a poor stand of beets.*

It is well to let the soil get quite dry before rolling after seeding. If it is rolled too soon after seeding, the earth becomes smooth on the surface and prevents the air from penetrating to the seed and destroys its germinating power.

## WEEDING.

The first weeding should be done as soon after the plants have come up as the rows may be distinguished. It is then very easy to destroy any weeds that may have made their appearance. In California this weeding should be followed by a second one after the lapse of three or four weeks. Repeated weedings loosen the soil, warm it, and incite vegetation. Instead of hand labor, a horse hoe may be used to great advantage for the weeding, at the same time acting as a cultivator. The hoe should scarify the soil an inch or two in depth. If, instead of the second weeding, a deeper cultivation be employed, the result will be to prevent dryness, which cannot penetrate, except with difficulty, into soils well pulverized to a certain depth. Each cultivation increases yield.

## THINNING OUT.

As soon as the beets have from two to four leaves, it is necessary to thin them out so that there may be about twelve roots to the square yard. The sooner the thinning is done the better for the plants, as they suffer much less when this work is not delayed.

The method of thinning out is to place a finger of one hand on the plant to be kept, and, holding it firmly in place, remove the others.



## FLOWING OUT.

This is done by means of a particular kind of plow, a sort of thin blade, which splits the soil between the rows. Instead of a share, it has a very narrow blade in the nature of a subsoil point, enough to carry it deep into the ground. The use of a plow avoids that injury to the beets caused by using spades, hoes, or forks, and it is also easier to remove the entire plant from hardened soils.

Beets may be plowed loose from eight to ten days before removing from the ground. Treated in this manner, the roots ripen and gain in weight and sugar; the earth adheres much less to the root and can be shaken off with ease.

## TOPPING.

This is the removal of the leaves with a portion of the crown of the root, generally at the base of the rough portion. It is best accomplished by a single straight cut across the beet without whittling.

## VARIETIES OF BEETS.

Of the many varieties, the following are mostly used:

Klein Wanzleben—white.

Vilmorin—white.

## SIZE OF BEETS.

If beets are planted at great distances apart they become large in size and freely absorb salts from the soil. To avoid this it is necessary to plant close together, thus dividing the available salts in the soil among more beets. Sugar is formed in the beet from the air through the leaves, and these should be many in number and of fair size.

ALAMEDA SUGAR COMPANY,  
Alvarado, Alameda County, Cal.

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SUGAR BEET SEED.

E. R. HAMILTON, Esq., *Sacramento*:

DEAR SIR: Yours of the 29th at hand. We have sugar beet seed of the following varieties, both white:

Florimond Desprey, L. Z. C. Blanche—Derived from Vilmorin's Ameliorée.

H. Mette's Rose Vilmorin—A white beet, with a rose shade at the base of the leaves.

Price for either, 15 cents per pound, including sacks, f. o. b. cars here or Decoto Station; cash.

Yours truly,

ALAMEDA SUGAR COMPANY,  
E. C. BURR, Manager.

*Alvarado, Cal., December 5, 1895.*

## WHEAT, FLOUR, AND BARLEY REVIEW.

Compiled for the State Board of Agriculture by T. C. FRIEDLANDER, Secretary of the San Francisco Produce Exchange.

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### WHEAT.

The final result of the wheat harvest of 1895 was, perhaps, the most disappointing in the history of the trade. During the growing months, and until the middle of May, all reports were of a full acreage in splendid condition; but about that time rust appeared in different parts of the San Joaquin Valley, and while it was known that damage had been done, it was not until the threshing-machines began to work that the full amount of the loss was appreciated. The Sacramento Valley suffered in a like ratio from a hot norther that swept over the plains for three days, and which materially cut down the yield. The quality of the grain also suffered, so that the crop of 1895, estimated at 735,000 tons, is the lowest average in quality of any grown for a number of years.

Prices realized by the farmers, while not satisfactory, were better than in 1894. But very little wheat was sold as low as 90 cents per cental, while shipping wheat, when harvest commenced, brought \$1, and at the close of the year was quoted at \$1 02½. Milling lots, owing to the poor quality of the crop, at all times commanded a good premium over shipping grades, and in the last month of the year this premium was the more marked, owing to an unexpected demand for milling wheat for shipment to Australia and South Africa. There has been shipped and engagements have been made for at least 50,000 tons of wheat for this trade, and it is the first time since 1889 that any quantity of grain has been taken from us by those countries.

While climatic conditions are the principal factor in the quality of a crop, still much can be done to assist nature by a proper and careful system of farming, and when milling wheat brings from \$1 to \$2 more per ton than No. 1 shipping, it does seem that this additional value would recompense growers for any slight additional expense they would incur by more conscientious plowing, seeding, and harvesting.

Furthermore, it cannot be denied but that the yield per acre would be materially increased if farmers systematically changed their seed grain, using that grown in a different section of the country instead of continually planting with a portion reserved for seed purpose from their crop of the preceding year.

Prices obtained for our crop in England show an improvement over those of 1894, and close at very nearly the highest point of the year. The market for the last three or four months must be looked upon as especially encouraging; fluctuations were small, but there was always a hardening tendency, and while 25s 6d was the quotation in August, the last of December found cargoes selling at 28s.

The large amount of wheat held by local speculators, and to which attention was called in the past two years, at last found its natural channel, and has been shipped from the State.

During March and April, while the prospects were still flattering, a large number of ships were chartered for new crop loading at figures

from 27s 6d to 32s 6d, Cork f. o. to United Kingdom, and when harvest commenced 35s had been paid for spot tonnage. As the actual output of the crop made itself apparent, rates declined, and the bulk of the export business was done on a basis of 27s 6d, at which figure chartering closed for the year. Exports for the year amounted to a little over 11,000,000 centals.

### FLOUR.

The exports of flour were 950,000 barrels—about 200,000 more than in 1894. California has more than held her own in her usual markets, and it is with satisfaction that the shipment of two full cargoes of flour to the United Kingdom is noted, and it is to be hoped that this is but the forerunner to a revival of a trade that has been neglected since 1893.

The mills of the State produced rather more than their usual output of flour, the total quantity being estimated at 2,200,000 barrels.

### BARLEY.

The barley crop for 1895 was very large and in marked contrast to the yield for 1894. Prices have not been satisfactory, but a good business has been done in export grades at 70c to 75c per cental. The exports for the year show a decided increase over those of the preceding year, and would have been considerably larger if the quality of the crop had not been lowered by the same climatic conditions that affected wheat.

### COMPARATIVE STATEMENT, STOCKS OF GRAIN IN CALIFORNIA.

	Flour— Bbls.	Wheat— Ctls.	Barley— Ctls.	Oats— Ctls.	Beans— Sacks.	Corn— Ctls.	Rye— Ctls.
1895—June 1st.....	51,607	6,306,340	714,440	108,960	65,819	65,340	4,480
1894—December 1st ...	73,950	13,040,330	1,965,230	213,590	193,180	-----	63,985
June 1st.....	80,310	7,646,090	1,370,305	106,915	124,300	94,390	6,585
1893—December 1st.....	99,031	14,234,419	3,907,011	253,508	-----	-----	22,967
June 1st.....	83,327	4,485,923	1,309,102	57,240	-----	-----	9,725
1892—December 1st.....	92,024	12,153,772	3,797,654	263,243	-----	-----	57,988
June 1st.....	120,517	2,100,149	913,049	48,786	128,182	92,837	5,831
1891—December 1st.....	140,043	9,964,575	2,883,602	168,404	275,126	263,255	39,545
June 1st.....	121,166	1,626,562	352,882	45,074	46,682	76,738	14,136
1890—December 1st.....	118,123	12,168,993	1,615,655	61,085	174,291	302,921	37,150
June 1st.....	81,090	4,801,063	1,064,457	61,235	39,503	91,111	15,892
1889—December 1st.....	116,225	15,300,368	3,321,860	120,356	107,419	134,915	66,540
June 1st.....	100,565	2,092,430	2,052,630	119,245	60,415	38,925	10,215
1888—December 1st.....	95,906	10,819,630	4,087,050	120,175	235,320	266,747	7,040
July 1st.....	71,920	3,881,960	2,063,450	62,095	33,675	82,200	800
January 1st.....	59,979	9,730,060	4,522,990	65,380	109,925	121,300	4,350
1887—July 1st.....	50,275	2,790,400	798,500	42,400	74,405	72,330	1,350
January 1st.....	89,605	7,812,850	2,590,250	47,400	243,550	136,650	44,650
1886—July 1st.....	102,325	1,252,600	114,850	31,150	103,700	27,625	1,080
1885—October 10th.....	107,180	13,768,539	1,620,500	-----	-----	-----	-----
July 1st.....	70,800	5,382,900	608,150	107,440	81,280	72,100	32,875
January 1st.....	187,830	15,852,210	1,933,250	304,710	168,110	146,430	61,300
1884—July 1st.....	112,600	664,050	640,350	58,450	44,175	16,110	30,100
January 1st.....	177,280	6,735,720	2,434,150	149,330	53,050	91,220	58,910
1883—July 1st.....	77,000	979,500	820,500	10,300	56,060	57,420	8,125
January 1st.....	158,893	8,381,879	1,941,466	118,650	94,830	90,865	23,665
1882—July 1st.....	119,324	2,822,903	162,416	21,305	48,708	61,597	3,021
January 1st.....	123,151	15,191,020	823,322	85,143	95,843	157,716	32,059
1881—July 1st.....	135,592	12,444,278	595,028	15,744	70,780	94,210	3,820
January 1st.....	78,253	19,805,466	1,651,787	95,220	113,708	228,037	17,742
1880—July 1st.....	30,934	323,821	908,294	18,357	52,217	88,572	5,989
January 1st.....	83,638	4,096,895	2,013,930	112,351	48,904	129,715	38,712
1879—July 1st.....	37,786	593,251	806,565	26,484	-----	148,002	22,237
January 1st.....	75,130	5,781,168	2,207,142	137,042	-----	233,534	64,384
1878—July 1st.....	20,231	284,424	147,598	29,564	-----	11,066	230
January 1st.....	57,187	2,646,811	882,046	104,998	-----	110,434	3,901



## RECEIPTS OF PRODUCE AT SAN FRANCISCO FROM ALL SOURCES, 1895.

Month.	Flour— ¾ Barrels	Wheat— Centsals...	Barley— Centsals...	Oats— Centsals...	Beans— Sacks	Corn— Centsals...	Rye— Centsals...	Potatoes— Sacks	Onions— Sacks	Bran— Sacks	Hay— Tons	Hops— Bales	Mustard— Sacks	Flax— Sacks	Wool— Bales
January	368,522	788,791	90,046	56,737	30,430	13,645	3,718	103,608	10,274	51,447	9,862	652	1,106	4,238	275
February	304,632	886,115	77,849	20,201	33,114	16,563	3,862	99,608	11,628	25,477	9,787	688	2,989	3,780	1,271
March	448,745	979,907	69,092	38,650	55,496	17,611	2,292	97,848	13,629	28,795	8,452	603	3,101	3,780	9,318
April	581,578	934,130	118,087	39,421	22,214	18,080	3,164	94,168	6,904	35,423	10,435	325	2,034	142	22,822
May	527,026	814,122	84,600	30,785	12,714	14,095	4,415	71,804	15,201	38,472	10,028	461	774	941	12,851
June	447,251	1,669,261	122,593	59,486	13,475	12,480	4,240	71,030	12,401	32,492	10,773	368	283	1,351	9,885
July	297,076	837,775	433,506	33,051	10,182	6,204	4,054	68,618	12,624	51,816	17,879	566	93	8	7,353
August	331,498	726,767	335,870	57,317	12,590	8,622	6,86	98,864	11,105	48,016	18,948	566	1,938	1,182	5,069
September	407,506	630,726	328,408	99,938	41,589	8,940	4,372	94,811	16,325	44,277	15,569	1,291	12,131	13,932	7,078
October	452,473	1,307,760	502,636	83,988	157,212	21,490	4,724	99,439	11,196	43,303	12,122	4,514	9,776	38,554	14,380
November	521,113	1,201,588	262,705	52,420	143,113	37,241	4,355	86,069	10,733	64,023	8,897	1,697	20,091	17,892	3,334
December	515,644	1,478,907	373,246	58,811	29,957	37,195	4,298	93,132	8,285	57,312	10,036	787	4,456	14,652	2,175
Totals '95.	5,203,094	12,255,849	2,798,638	630,805	562,086	212,166	44,180	1,079,000	140,305	520,853	142,788	11,932	58,782	96,672	95,814
Totals, '94.	4,511,217	8,766,242	2,076,920	687,152	509,720	324,032	42,601	1,168,479	142,937	520,853	142,937	11,932	54,211	37,186	102,144
Totals, '93.	4,481,950	12,667,224	4,237,893	606,584	515,226	330,149	73,600	1,313,270	127,653	520,853	142,937	11,932	59,648	11,497	89,672
Totals, '92.	5,332,405	10,435,610	2,746,878	593,398	648,909	362,042	72,999	1,259,151	123,810	520,853	142,937	11,932	28,307	51,894	96,330
Totals, '91.	5,862,388	18,183,133	2,710,538	595,782	402,076	369,904	139,336	1,274,607	126,540	520,853	142,937	11,932	24,851	69,011	86,352
Totals, '90.	5,917,700	14,209,236	1,851,346	532,332	420,595	367,690	146,967	1,355,418	132,064	520,853	142,937	11,932	29,412	56,155	101,490
Totals, '89.	5,597,109	13,246,621	2,255,560	586,484	368,135	213,712	51,273	1,351,897	124,264	520,853	142,937	11,932	27,941	72,203	109,746
Totals, '88.	4,354,420	12,917,228	2,792,631	609,529	299,057	221,098	28,543	1,239,430	127,701	520,853	142,937	11,932	26,108	95,905	105,338
Totals, '87.	3,600,348	9,602,651	2,055,366	414,812	423,530	281,600	32,277	961,200	117,360	520,853	142,937	11,932	37,734	58,193	110,769
Totals, '86.	4,885,772	16,527,503	2,184,560	508,717	361,320	218,100	26,275	1,079,593	99,442	520,853	142,937	11,932	43,828	88,704	114,098

## CLEARANCES FROM SAN FRANCISCO BY SEA, 1895.

Month.	Flour— Bbls.	Wheat— Ctls.	Barley— Ctls.	Oats— Ctls.	Corn— Ctls.	Rye— Ctls.
January .....	65,615	610,391	13,984	1,286	7,287	-----
February .....	58,119	753,454	14,642	360	6,911	-----
March .....	81,504	1,080,210	18,350	332	3,349	-----
April .....	102,769	841,207	74,303	1,296	3,340	-----
May .....	95,297	830,184	11,551	1,961	4,661	-----
June .....	83,096	1,109,012	51,513	447	7,131	-----
July .....	40,240	1,222,837	293,467	2,935	939	-----
August .....	60,669	594,378	124,122	868	2,053	-----
September .....	79,720	520,204	228,370	2,136	1,684	-----
October .....	91,941	1,181,798	393,850	966	1,839	-----
November .....	98,881	1,227,681	206,379	1,346	1,241	-----
December .....	92,130	1,076,058	192,036	2,271	5,576	-----
Totals, 1895 .....	949,981	11,047,414	1,622,567	16,204	46,011	-----
Totals, 1894 .....	787,432	7,144,017	1,058,172	21,430	178,320	12
Totals, 1893 .....	872,506	10,880,219	2,817,151	19,856	95,867	33,739
Totals, 1892 .....	1,077,956	9,726,697	1,323,495	21,982	70,648	32,420
Totals, 1891 .....	1,225,183	16,823,743	929,216	12,392	123,998	93,615
Totals, 1890 .....	1,182,111	13,019,910	318,313	28,447	78,337	96,012
Totals, 1889 .....	1,109,126	12,257,046	830,331	59,323	26,486	-----
Totals, 1888 .....	808,439	11,708,261	1,029,361	35,985	51,041	-----
Totals, 1887 .....	788,180	9,140,689	416,583	-----	-----	-----
Totals, 1886 .....	1,104,395	15,874,268	760,606	-----	-----	-----

## IMPORTS INTO CALIFORNIA BY SEA, 1895.

Month.	Flour— ¼ Barrels.	Wheat— Centals.	Barley— Centals.	Oats— Centals.	Potatoes— Sacks.	Flax— Sacks.	Wool— Bales.
January .....	146,885	268,767	50,873	54,666	29,433	4,338	90
February .....	86,376	118,390	20,507	17,299	28,995	3,790	28
March .....	96,142	6,176	18,433	26,150	40,577	-----	12
April .....	177,960	11,350	54,256	34,172	55,583	-----	21
May .....	129,777	5,685	17,500	22,865	23,238	940	1,001
June .....	80,437	1,305	5,825	49,093	-----	-----	727
July .....	76,432	17,672	-----	17,141	2,920	-----	2,298
August .....	45,074	6,222	11,286	24,178	98,864	-----	727
September .....	63,609	32,356	6,029	68,945	132	12,445	295
October .....	76,334	118,916	14,680	73,435	9,119	37,175	278
November .....	79,140	88,410	2,015	41,210	12,204	17,380	147
December .....	82,675	80,224	3,879	49,344	20,260	12,424	42
Totals .....	1,140,841	755,473	205,283	478,495	321,325	88,492	5,666

## WHEAT QUOTATIONS, 1895.

Average, highest, and lowest prices of No. 1 white wheat for each month.  
Quotations based on actual transactions in the sample market:

Month.	Average.	Highest.	Lowest.
January .....	\$0 86	\$0 90	\$0 81½
February .....	82½	85	80
March .....	85½	90	82½
April .....	87½	91½	85
May .....	89½	93½	87½
June .....	93½	97½	90
July .....	92½	97½	88½
August .....	95½	98½	92½
September .....	91½	96½	88½
October .....	96½	1 01½	92½
November .....	97½	1 00	95
December .....	1 00	1 03½	97½

## WHEAT QUOTATIONS FOR A SERIES OF YEARS.

The average, highest, and lowest price of No. 1 white wheat, spot, each year since 1864-65 has been as follows :

Year.	Average.	Highest.	Lowest.
1894-95.....	\$0 87½	\$0 97½	\$0 76¼
1893-94.....	1 01¼	1 16¼	90
1892-93.....	1 27¾	1 37½	1 17½
1891-92.....	1 63¾	1 90	1 38¾
1890-91.....	1 46¼	1 85	1 27½
1889-90.....	1 28¾	1 38¾	1 25
1888-89.....	1 34¼	1 65	1 26¼
1887-88.....	1 40¼	2 00	1 22½
1886-87.....	1 52¼	1 87½	1 20
1885-86.....	1 43½	1 52½	1 17½
1884-85.....	1 31¾	1 50	1 15
1883-84.....	1 64¾	1 90	1 42½
1882-83.....	1 73½	2 05	1 60
1881-82.....	1 60	1 75	1 30
1880-81.....	1 42¾	1 62½	1 25
1879-80.....	1 82	2 15	1 45
1878-79.....	1 67¾	1 77½	1 57½
1877-78.....	2 18	2 45	1 82½
1876-77.....	1 92¼	3 00	1 45
1875-76.....	1 93½	2 32½	1 67½
1874-75.....	1 62	1 85	1 52½
1873-74.....	2 05¼	2 35	1 70
1872-73.....	1 76¼	2 05	1 50
1871-72.....	2 34	2 82½	1 87½
1870-71.....	2 20½	3 10	1 65
1869-70.....	1 69	1 82½	1 55
1868-69.....	1 87	2 12½	1 55
1867-68.....	2 36	3 05	1 67½
1866-67.....	1 73	2 15	1 35
1865-66.....	2 11	4 75	1 62½
1864-65.....	4 05	5 00	2 25

## STATISTICS CROP YEAR 1894-95.

Exports from California 12 months ending May 31, 1894-95:	Wheat, Tons.
Flour, 882,064 bbls.....	127,899
Wheat, 8,537,497 centals.....	426,875
Total exports.....	554,774
Local consumption 12 months.....	210,000
Seed and feed.....	150,000
Stock in State June 1, 1895.....	322,800
Total.....	1,237,574
Deduct—	Wheat, Tons.
Flour from Oregon and Washington, 309,104 bbls., equals.....	44,820
Wheat from Oregon and Washington.....	82,013
Total imports.....	126,833
Stock carried over June 1, 1894.....	393,949
	520,782
Crop of 1894.....	716,792

N. B.—A barrel of flour figured as an equivalent of 290 pounds of wheat.



## ARRIVALS OF NEW WHEAT.

The date of arrival of new wheat at tide water each year since that cereal was first produced in quantity, and market price of No. 1 wheat at such time, are given below:

Year.	Month.	Price.	Year.	Month.	Price.
1895.....	June 1.....	\$0 91¼	1876.....	June 9.....	\$1 75 @ .....
1894.....	June 10.....	95	1875.....	June 2.....	1 65 @ 1 67
1893.....	June 2.....	1 26¼	1874.....	June 11.....	1 65 @ 1 67
1892.....	May 23.....	1 47½	1873.....	June 7.....	1 75 @ 1 80
1891.....	May 24.....	1 75	1872.....	June 10.....	1 80 @ 1 85
1890.....	May 20.....	1 30	1871.....	June 23.....	2 30 @ 2 37
1889.....	May 24.....	1 40	1870.....	June 9.....	1 70 @ 1 80
1888.....	June 15.....	1 31¼	1869.....	June 15.....	1 40 @ 1 45
1887.....	June 11.....	1 86	1868.....	June 18.....	1 90 @ 2 00
1886.....	June 5.....	1 25	1867.....	June 17.....	1 65 @ 1 70
1885.....	June 3.....	1 42½	1866.....	June 25.....	1 50 @ 1 60
1884.....	June 30.....	1 45	1865.....	June 12.....	2 20 @ 2 25
1883.....	June 19.....	1 65	1864.....	July 9.....	2 80 @ 2 95
1882.....	June 6.....	1 67	1863.....	July 25.....	1 50 @ 1 60
1881.....	June 7.....	1 30	1862.....	July 11.....	1 62 @ 1 65
1880.....	June 24.....	1 55	1861.....	July 24.....	1 50 @ 1 65
1879.....	June 20.....	1 65	1860.....	July 3.....	1 50 @ 1 55
1878.....	June 13.....	1 70	1859.....	July 14.....	1 90 @ 2 00
1877.....	June 2.....	2 40			

## RAINFALL AND WHEAT.

The following table shows the rainfall at San Francisco for a series of years, and the crop of wheat raised:

Season.	Inches.	Crop.	Centals.
1877-78.....	35.18	1878.....	16,373,000
1878-79.....	24.44	1879.....	16,160,000
1879-80.....	26.66	1880.....	34,150,000
1880-81.....	29.86	1881.....	20,600,000
1881-82.....	16.14	1882.....	21,000,000
1882-83.....	20.12	1883.....	20,100,000
1883-84.....	32.38	1884.....	28,830,000
1884-85.....	18.10	1885.....	15,177,980
1885-86.....	33.05	1886.....	21,394,380
1886-87.....	19.04	1887.....	17,315,380
1887-88.....	16.74	1888.....	18,643,080
1888-89.....	23.86	1889.....	25,174,940
1889-90.....	45.84	1890.....	18,889,680
1890-91.....	17.58	1891.....	21,095,440
1891-92.....	18.53	1892.....	20,445,960
1892-93.....	21.75	1893.....	19,904,640
1893-94.....	18.47	1894.....	14,335,840

## AVERAGE PRICE OF NO. 1 FEED BARLEY.

1894-95.....	\$0 77½	1884-85.....	\$0 97½
1893-94.....	79½	1883-84.....	94½
1892-93.....	85½	1882-83.....	1 25½
1891-92.....	1 05½	1881-82.....	1 33
1890-91.....	1 39½	1880-81.....	1 44
1889-90.....	81½	1879-80.....	89½
1888-89.....	75½	1878-79.....	74
1887-88.....	79½	1877-78.....	88
1886-87.....	1 00½	1876-77.....	1 44½
1885-86.....	1 28		

## ARRIVALS OF NEW BARLEY.

The first receipts for new barley for a series of years past and the price of No. 1 feed barley at such date are annexed:

Year.	Month.	Price.	Year.	Month.	Price.
1895	May 25	\$0 63 $\frac{3}{4}$	1882	June 12	\$1 65
1894	June 1	92 $\frac{1}{2}$	1881	June 21	90
1893	June 3	85	1880	June 24	68 $\frac{3}{4}$
1892	June 6	1 05	1879	June 30	75
1891	June 6	1 42 $\frac{1}{2}$	1878	June 11	80
1890	May 31	1 06 $\frac{1}{4}$	1877	June 30	1 55
1889	June 1	75	1876	May 30	90
1888	June 5	92 $\frac{1}{2}$	1875	June 20	1 35
1887	June 4	1 15	1874	June 9	1 45
1886	May 27	1 10	1873	June 5	1 10
1885	June 16	1 25	1872	June 6	1 40
1884	July 9	90	1871	June 12	1 57 $\frac{1}{2}$
1883	June 25	95	1870	June 19	1 20

## BARLEY SHIPMENTS, IN CENTS, 1895.

Month.	From San Francisco.		From California.
	Foreign— By Sea.	Domestic— By Sea.	Domestic— By Rail.
January	13,984		480
February	14,642		
March	16,103	2,247	
April	64,278	10,025	
May	11,551		
June	18,481	33,032	
July	276,861	16,606	
August	124,122		
September	228,370		
October	393,850		
November	206,379		
December	192,036		
Totals	1,560,657	61,910	480

## BARLEY QUOTATIONS, 1895.

Average, highest, and lowest prices of No. 1 feed barley for each month of the year. Quotations based upon actual sales in the sample market.

Month.	Average.	Highest.	Lowest.
January	\$0 80 $\frac{7}{8}$	\$0 85	\$0 75
February	77 $\frac{1}{2}$	80	75
March	77 $\frac{1}{2}$	82 $\frac{1}{2}$	73 $\frac{3}{4}$
April	70 $\frac{3}{4}$	75	63 $\frac{3}{4}$
May	64 $\frac{1}{4}$	66 $\frac{1}{4}$	62 $\frac{1}{2}$
June	60 $\frac{3}{4}$	65	57 $\frac{1}{2}$
July	60 $\frac{3}{4}$	62 $\frac{1}{2}$	57 $\frac{1}{2}$
August	61	63 $\frac{3}{4}$	57 $\frac{1}{2}$
September	56 $\frac{3}{10}$	60	53 $\frac{3}{4}$
October	61	63 $\frac{3}{4}$	57 $\frac{1}{2}$
November	64	70	60
December	67 $\frac{7}{8}$	70	65

DESTINATION AND VALUE OF EXPORTS FROM CALIFORNIA, JULY 1, 1894,  
TO JUNE 29, 1895.

*Wheat.*

Destination.	Centals.	Value.
United Kingdom, direct.....	1,764,532	\$1,529,717
Ports of call to United Kingdom and Continent.....	7,775,806	7,011,728
Various.....	58,285	60,522
Totals.....	9,598,623	\$8,601,967

*Flour.*

Destination.	Barrels.	Value.
China.....	521,801	\$1,396,985
Central America.....	231,467	727,808
East Indies.....	8,520	27,065
Hawaiian and Pacific Islands.....	61,575	197,787
Japan.....	30,980	91,011
Mexico.....	9,741	30,574
Siberia.....	38,344	126,471
South America.....	16,110	49,513
Miscellaneous.....	3,846	8,098
Totals.....	922,384	\$2,655,312

AMERICAN VS. FOREIGN SHIPS.

The proportion of American to foreign ships engaged in the grain trade of this port, each year for the past twenty years, is shown in the annexed table:

Year.	Am.	Foreign.	Total.
1894-95.....	13	150	163
1893-94.....	26	163	189
1892-93.....	29	201	230
1891-92.....	39	234	273
1890-91.....	52	213	265
1889-90.....	55	229	284
1888-89.....	60	229	289
1887-88.....	33	165	198
1886-87.....	55	227	282
1885-86.....	88	161	249
1884-85.....	116	255	371
1883-84.....	81	210	291
1882-83.....	169	202	371
1881-82.....	154	405	559
1880-81.....	132	224	356
1879-80.....	113	160	273
1878-79.....	83	186	269
1877-78.....	50	59	109
1876-77.....	94	213	307
1875-76.....	82	92	174
1874-75.....	62	203	265
1873-74.....	91	156	247
1872-73.....	136	203	339



## NATIONALITY OF TONNAGE.

The following table shows the nationality of the grain vessels sailing each month the past year:

Month.	Am.	Br.	Mis.	Total.
1894—July .....		1		1
August .....	1	9	2	12
September .....	1	11	1	13
October .....	2	22	3	27
November .....	1	12	2	15
December .....	1	9	1	11
1895—January .....	3	8		11
February .....	1	8	3	12
March .....		14	4	18
April .....	1	12		13
May .....		10	3	13
June .....	2	14	1	17
Totals .....	13	130	20	163

## FREIGHTS.

The following table shows the average, highest, and lowest rates paid for iron wheat-ships each month of the last cereal year, the figures being for spot engagements for Cork, f. o. U. K., Havre, or Antwerp:

	Average.	Highest.	Lowest.
	£ s. d.	£ s. d.	£ s. d.
1894—July .....	1 6 3	1 6 3	1 6 3
August .....	1 4 10	1 6 0	1 3 9
September .....	1 5 11	1 7 6	1 5 0
October .....	1 5 3	1 7 6	1 2 9
November .....	1 7 6	1 7 6	1 7 6
December .....	1 6 11	1 8 0	1 6 3
1895—January .....	1 7 6	1 7 6	1 7 6
February .....	1 4 10	1 6 3	1 3 9
March .....	1 4 7	1 6 3	1 3 9
April .....	1 5 1	1 10 0	1 3 9
May .....	1 10 6	1 13 0	1 10 0
June .....	1 15 0	1 15 0	1 15 0

## AVERAGE FREIGHT RATES FOR SEASON.

Year.	Wood.	Iron.
	£ s. d.	£ s. d.
1894-95 .....	1 5 6	1 7 0
1893-94 .....	1 5 3	1 7 7
1892-93 .....	0 19 6	1 2 8
1891-92 .....	1 11 11	1 11 1
1890-91 .....	1 18 10	2 1 11
1889-90 .....	1 13 5	1 17 3
1888-89 .....	1 8 3	1 12 7
1887-88 .....	1 5 6	1 6 2
1886-87 .....	1 6 1	1 8 2
1885-86 .....	1 9 3	1 12 6
1884-85 .....	1 14 2	1 18 0
1883-84 .....	1 5 8	1 14 8
1882-83 .....	2 3 6	2 6 9
1881-82 .....	3 5 7	3 7 3
1880-81 .....	3 6 9	3 13 0

## OLD FREIGHT RECORDS.

Prior to 1880, rates for iron and wooden ships were not separated, but the following rates are quoted for a series of years, the highest rate being £5 13s, for the wooden ship Agenor to Liverpool direct :

Year.	Average.	Highest.	Lowest.
	£ s. d.	£ s. d.	£ s. d.
1879-80 .....	2 15 0	3 10 0	1 19 0
1878-79 .....	2 10 0	3 0 0	1 10 0
1877-78 .....	2 0 0	2 10 0	1 12 6
1876-77 .....	3 0 0	3 12 0	1 17 6
1875-76 .....	2 10 0	3 2 6	2 0 0
1874-75 .....	3 10 0	4 11 6	2 0 0
1873-74 .....	4 2 6	5 5 0	3 10 0
1872-73 .....	4 5 0	5 13 0	3 0 0

## NUMBER OF WHEAT VESSELS DISPATCHED.

Month.	No.	Month.	No.
1894—July .....	1	1895—January .....	11
August .....	12	February .....	12
September .....	13	March .....	18
October .....	27	April .....	13
November .....	15	May .....	13
December .....	11	June .....	17
Total, 1894-95 .....			163
Total, 1893-94 .....			189
Total, 1892-93 .....			230
Total, 1891-92 .....			273
Total, 1890-91 .....			265
Total, 1889-90 .....			284
Total, 1888-89 .....			289
Total, 1887-88 .....			198
Total, 1886-87 .....			282
Total, 1885-86 .....			249
Total, 1884-85 .....			371
Total, 1883-84 .....			291
Total, 1882-83 .....			371
Total, 1881-82 .....			559
Total, 1880-81 .....			356

## STOCKS OF GRAIN IN WAREHOUSES AND ON WHARVES, IN TONS.

	Wheat.			Barley.	Oats.	Corn.	Bran.
	Port Costa.	Stockton.	City.				
1895—Jan. 1 .....	259,291	40,278	18,091	16,119	8,089	1,121	1,203
Feb. 1 .....	258,746	37,005	19,328	14,636	8,295	821	632
Mar. 1 .....	245,156	33,543	15,732	12,292	6,884	934	478
Apr. 1 .....	233,591	30,398	13,351	11,189	5,229	965	406
May 1 .....	211,335	22,025	11,721	8,928	4,649	1,144	572
June 1 .....	194,647	26,261	8,792	5,203	4,460	1,064	376
July 1 .....	131,420	23,507	5,168	2,119	4,765	783	333
Aug. 1 .....	134,811	52,251	1,838	3,369	4,156	448	378
Sept. 1 .....	157,818	90,055	1,679	5,840	4,123	401	719
Oct. 1 .....	166,254	87,879	3,334	6,621	5,045	248	128
Nov. 1 .....	156,110	88,076	5,458	7,821	5,478	349	126
Dec. 1 .....	132,080	74,763	4,420	6,013	4,333	889	342
1896—Jan. 1 .....	110,561	65,913	4,135	5,040	3,684	1,186	141

## STATISTICAL TABLES.

## ACREAGE AND YIELD OF WHEAT AND BARLEY IN 1895.

County.	Wheat.		Barley.	
	Acres.	Bushels.	Acres.	Bushels.
Alameda .....	11,520	172,800	37,527	750,540
Alpine .....	500	1,050	209	2,310
Amador .....	1,465	54,000	9,900	297,000
Butte .....	149,365	1,792,380	16,209	486,288
Calaveras .....	3,150	31,500	5,720	17,160
Colusa .....	351,886	3,518,860	67,036	1,005,543
Contra Costa .....	26,125	391,875	29,425	1,177,000
Del Norte .....	49	500	844	42,119
El Dorado .....	1,900	28,500	1,980	39,600
Fresno .....	80,000	320,000	46,725	747,612
Glenn .....	120,000	1,200,000	27,500	412,500
Humboldt .....	1,860	46,440	1,720	103,290
Inyo .....	2,267	24,000	319	1,276
Kern .....	50,000	170,500	8,250	33,000
Kings .....	40,000	240,000	4,400	44,000
Lake .....	5,202	52,020	3,300	151,800
Lassen .....	7,317	44,768	1,560	30,800
Los Angeles .....	70,000	254,400	73,150	877,800
Madera .....	60,000	240,000		
Marin .....	1,500	24,300	550	13,750
Mariposa .....	1,500	17,000	4,950	49,500
Mendocino .....	6,000	127,695	8,810	176,200
Merced .....	90,000	669,441	60,270	1,205,424
Modoc .....	1,000	16,380	1,619	29,145
Mono .....	143	1,430	190	3,425
Monterey .....	38,500	378,000	42,750	1,282,200
Napa .....	16,537	330,752	10,760	279,994
Nevada .....	81	810		
Orange .....	55	825	55,000	522,500
Placer .....	21,933	263,194	5,433	108,790
Plumas .....	1,024	10,240	441	8,822
Sacramento .....	38,400	384,000	48,411	529,221
San Benito .....	4,800	57,600	6,600	115,000
San Bernardino .....	2,438	24,380	12,787	319,687
San Diego .....	903	9,030	10,340	14,038
San Joaquin .....	134,204	1,610,448	86,390	2,191,200
San Luis Obispo .....	36,296	290,368	106,920	1,603,800
San Mateo .....	4,900	98,000	1,730	51,900
Santa Barbara .....	1,125	18,000	43,450	2,693,900
Santa Clara .....	14,700	367,500	16,753	418,525
Santa Cruz .....	3,500	16,317	1,712	51,538
Shasta .....	6,524	65,240	2,678	58,927
Sierra .....	795	7,950	2,614	52,294
Siskiyou .....	6,400	64,000	550	11,000
Solano .....	51,226	768,390	35,915	1,100,000
Sonoma .....	5,950	119,000	8,250	247,500
Stanislaus .....	141,044	1,128,352	33,000	495,000
Sutter .....	24,850	372,800	12,397	223,146
Tehama .....	33,891	338,910	12,799	191,994
Trinity .....	1,000	12,000	25	550
Tulare .....	102,000	821,700	14,200	146,608
Tuolumne .....	2,823	28,230	1,295	23,324
Ventura .....	8,640	86,400	28,837	1,153,504
Yolo .....	229,650	3,444,750	60,500	1,210,000
Yuba .....	17,000	222,807	7,198	111,573
Totals .....	2,033,938	20,779,832	1,071,998	22,913,617



## ACREAGE AND YIELD OF OATS AND CORN IN 1895.

County.	Oats.		Corn.	
	Acres.	Bushels.	Acres.	Bushels.
Alameda	316	7,900	450	13,500
Alpine	200	4,000	100	2,000
Amador	150	6,000	600	21,000
Butte	201	5,628	370	12,950
Calaveras	450	9,000	190	9,500
Colusa	134	2,680	400	10,000
Contra Costa	16,000	80,000	2,000	100,000
Del Norte	2,430	170,100		
El Dorado	1,080	21,600	100	2,000
Fresno	257	6,425	50	3,000
Glenn	5,000	10,000	450	11,250
Humboldt	20,000	1,400,000	50	1,750
Inyo	600	2,400	1,500	45,000
Kern	800	4,800	10,700	267,500
Kings			6,000	100,000
Lake	700	28,000	1,000	40,000
Lassen	1,200	24,000	25	800
Los Angeles	400	8,000	14,000	280,000
Marin	2,000	80,000	100	3,000
Mariposa	100	2,000	300	3,000
Mendocino	2,300	46,000	1,000	30,000
Merced	150	4,000	1,500	45,000
Modoc	600	15,000		
Mono	36	540	50	1,500
Monterey	3,600	144,000		
Napa	8,000	240,000	2,000	80,000
Nevada	68	1,088		
Orange			7,000	350,000
Placer	2,500	50,000		
Plumas	2,000	60,000		
Sacramento	1,000	40,000	7,000	210,000
San Benito	350	5,250	50	1,750
San Bernardino	1,000	20,000	600	18,000
San Diego	6,000	30,000	2,000	20,000
San Joaquin	200	5,000	410	14,000
San Luis Obispo	3,000	60,000	300	9,000
San Mateo	100	2,500	200	6,000
Santa Barbara			800	40,000
Santa Clara	140	3,500	300	21,000
Santa Cruz	7,200	144,000	1,500	15,000
Shasta	500	12,500	200	6,000
Sierra	1,500	30,000		
Siskiyou	1,500	37,500	250	6,000
Solano	150	3,000	200	7,500
Sonoma	4,000	160,000	6,000	150,000
Stanislaus	200	4,000	400	12,000
Sutter	8,000	96,000	600	9,000
Tehama	1,000	20,000	200	4,000
Trinity	25	750	100	2,000
Tuolumne	50	800		
Tulare			12,000	264,000
Ventura	80	2,000	8,000	240,000
Yolo	500	7,500	2,500	62,500
Yuba	3,600	43,200	400	6,000
Totals	111,367	3,160,661	93,945	2,556,500

## EXPORTS OF WHEAT AND FLOUR FROM CALIFORNIA, 1854-94.

Year.	Total Exports.		
	Wheat— Centals.	Flour— Barrels.	Total Wheat— Centals.
1854-55.....	74,087	46,841	214,610
1855-56.....	17,976	135,690	425,046
1856-57.....	22,017	37,374	134,139
1857-58.....	20	7,383	22,169
1858-59.....	123	19,035	57,228
1859-60.....	380,386	58,573	556,105
1860-61.....	1,529,924	196,774	2,120,246
1861-62.....	845,742	96,838	1,136,256
1862-63.....	1,018,397	136,315	1,427,342
1863-64.....	1,005,701	145,157	1,441,172
1864-65.....	25,111	90,001	295,114
1865-66.....	1,044,826	249,866	1,794,424
1866-67.....	3,642,505	485,593	5,099,284
1867-68.....	3,773,002	426,157	5,051,473
1868-69.....	4,373,213	459,933	5,753,012
1869-70.....	4,864,590	354,106	5,926,908
1870-71.....	3,583,124	194,763	4,167,413
1871-72.....	1,404,355	292,398	2,281,549
1872-73.....	9,835,571	264,529	10,629,158
1873-74.....	7,289,278	674,698	9,313,372
1874-75.....	8,803,880	525,614	10,380,772
1875-76.....	6,113,695	503,513	7,624,234
1876-77.....	10,627,664	507,536	12,150,272
1877-78.....	3,942,612	442,358	5,269,686
1878-79.....	9,996,122	527,440	11,578,442
1879-80.....	10,526,912	493,949	12,008,759
1880-81.....	13,367,767	662,093	15,354,056
1881-82.....	22,560,622	919,898	25,320,316
1882-83.....	14,602,619	1,105,639	17,919,536
1883-84.....	11,282,670	1,260,628	15,064,554
1884-85.....	15,732,435	1,304,641	19,646,358
1885-86.....	11,340,329	1,096,695	14,630,414
1886-87.....	12,005,010	801,913	14,410,749
1887-88.....	8,678,767	823,212	11,148,403
1888-89.....	13,088,653	845,232	15,544,349
1889-90.....	13,495,859	1,148,340	16,940,879
1890-91.....	13,611,516	902,250	16,318,266
1891-92.....	12,680,227	1,058,375	15,855,352
1892-93.....	10,310,513	1,176,676	13,840,541
1893-94.....	9,191,408	799,450	11,589,758
1894-95.....	11,000,000	950,000	13,850,000

## COMPARATIVE STATEMENT.

*Showing Fluctuations in the Price of Wheat, per Cental, in California (at Shipping Points) from 1865 to 1895—a Period of Thirty Years.*

Year.	Date of First Con- signment.	Price at Opening of Season.	Price in October.	Price at Christmas.	Remarks.
1865.....	June 22....	\$1 90	\$2 00	\$2 20	
1866.....	June 25....	1 55	1 70	1 90	
1867.....	June 17....	1 70	2 45	2 55	
1868.....	June 18....	2 00	1 90	2 00	
1869.....	June 15....	1 50	1 65	1 60	
1870.....	June 9....	1 75	1 95	2 20	
1871.....	June 23....	2 30	2 70	2 60	Dry year.
1872.....	June 10....	1 85	1 75	2 00	
1873.....	June 7....	1 75	2 30	2 25	
1874.....	June 11....	1 75	1 50	1 50	
1875.....	June 2....	1 67	2 00	1 90	
1876.....	June 9....	1 60	1 60	2 15	
1877.....	June 4....	2 25	2 20	2 30	Dry year.
1878.....	June 13....	1 65	1 70	1 70	
1879.....	June 20....	1 60	1 90	1 95	
1880.....	June 24....	1 50	1 45	1 40	Largest crop—1,700,000 tons.
1881.....	June 7....	1 40	1 70	1 70	
1882.....	July 6....	1 67	1 70	1 80	
1883.....	June 19....	1 65	1 70	1 85	
1884.....	June 20....	1 42	1 15	1 30	Large crop—1,500,000 tons.
1885.....	June 2....	1 40	1 47	1 37	
1886.....	June 5....	1 27	1 35	1 47	
1887.....	June 11....	1 47	1 27	1 37	
1888.....	June 15....	1 31	1 60	1 45	
1889.....	June .....	1 27	1 30	1 28	Large crop—1,200,000 tons.
1890.....	June .....	1 31	1 32	1 35	
1891.....	June .....	1 52	1 67	1 81	Largest crop in United States
1892.....	June .....	1 37	1 30	1 27	but short crop in England.
1893.....	June .....	1 16	1 05	1 03	Financial crisis all over United
1894.....	June .....	92	78	88	States and decline in price
1895.....	June .....	92	96	1 01 $\frac{1}{4}$	of wheat ever since.



## EXPORTS OF WINE, 1895.

## TOTAL WINE SHIPMENTS BY SEA.

To—	Cases.	Gallons.	Value.
New York .....	479	3,201,452	\$957,223
Central America .....	10,924	173,649	140,482
Mexico .....	1,122	99,618	44,096
Hawaii .....	741	127,054	59,459
British Columbia .....	115	9,574	4,253
Japan and China .....	253	78,316	21,389
Great Britain .....	—	10,471	3,672
Germany .....	105	28,677	11,050
Other European .....	181	—	730
Tahiti .....	4	53,602	15,390
All other foreign .....	16	3,673	2,125
Totals, 1895 .....	13,940	3,786,086	\$1,262,869
Totals, 1894 .....	12,672	2,576,722	1,106,831
Totals, 1893 .....	13,344	3,704,834	1,765,406
Totals, 1892 .....	15,876	4,843,128	2,336,117

## EXPORTS OF WINE OVERLAND.

Month.	Cases.	Gallons.	Value.
January .....	942	1,370,865	—
February .....	1,908	1,067,838	—
March .....	2,784	1,047,090	—
April .....	3,399	1,017,764	—
May .....	3,010	881,683	—
June .....	1,782	1,083,378	—
July .....	2,220	414,667	—
August .....	2,167	532,430	—
September .....	2,402	799,678	—
October .....	2,669	1,011,747	—
November .....	3,623	948,978	—
December .....	2,321	958,621	—
Totals, 1895 .....	29,227	11,134,739	\$4,570,803
Totals, 1894 .....	34,312	11,454,683	4,719,121
Totals, 1893 .....	37,702	8,621,199	3,589,689
Totals, 1892 .....	36,948	6,330,624	2,680,041

## GRAND TOTAL OF ALL WINE SHIPMENTS.

	Cases.	Gallons.	Value.
By sea .....	13,940	3,786,086	\$1,262,869
By rail, overland .....	29,227	11,134,739	4,570,803
Totals, 1895 .....	43,171	14,920,825	\$5,833,672
Totals, 1894 .....	46,984	14,031,405	5,825,952
Totals, 1893 .....	51,046	12,326,033	5,355,093
Totals, 1892 .....	52,824	11,117,752	5,016,158

## EXPORTS OF BRANDY, 1895.

## TOTAL BRANDY EXPORTS BY SEA.

To—	Cases.	Gallons.	Value.
Domestic Eastern ports .....	51	53,072	\$45,118
Germany .....	-----	12,201	6,127
Great Britain .....	-----	9,701	7,000
All other foreign .....	391	13,430	14,209
Totals, 1895 .....	442	88,404	\$72,454
Totals, 1894 .....	513	358,774	338,323
Totals, 1893 .....	332	292,434	442,597
Totals, 1892 .....	667	539,957	721,712

## TOTAL EXPORTS OF BRANDY OVERLAND.

Month.	Cases.	Gallons.	Value.
January .....	31	42,942	-----
February .....	295	27,689	-----
March .....	1,195	53,499	-----
April .....	230	45,219	-----
May .....	104	27,949	-----
June .....	82	21,536	-----
July .....	152	17,294	-----
August .....	203	31,876	-----
September .....	150	22,604	-----
October .....	226	67,710	-----
November .....	390	74,513	-----
December .....	185	47,374	-----
Totals, 1895 .....	3,243	480,205	\$840,358
Totals, 1894 .....	1,280	442,803	677,005
Totals, 1893 .....	1,766	495,908	745,960
Totals, 1892 .....	2,554	366,763	575,684

## GRAND TOTAL EXPORTS OF BRANDY.

	Cases.	Gallons.	Value.
By sea .....	442	88,404	\$72,454
By rail, overland .....	3,243	480,205	840,358
Totals, 1895 .....	3,685	568,609	\$912,812
Totals, 1894 .....	1,793	801,577	1,075,328
Totals, 1893 .....	2,098	788,342	1,188,557
Totals, 1892 .....	3,221	906,720	1,297,396

U. S. Department of Agriculture—Weather Bureau.

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ANNUAL REVIEW

OF THE

CALIFORNIA CLIMATE AND CROP SERVICE

FOR THE YEAR 1895,

BY THE

*Climate and Crop Department of the State Agricultural Society, in Coöperation  
with the United States Weather Bureau.*

JAMES A. BARWICK, Observer and Director.

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SACRAMENTO, CAL., February 19, 1896.

EDWIN F. SMITH, *Secretary State Agricultural Society, Sacramento, Cal.:*

DEAR SIR: I have the honor to inclose herewith the climate and crop service data for the year 1895.

There will be found a brief summary for each month and for the year; also tabulated data of each month for every station that had a complete record for the twelve months, either of temperature or precipitation.

There is also an article on protection from frost, by Mr. W. H. Hammon, the forecast officer at San Francisco, Cal.; and an article on sunshine, clouds, and clear days for each Weather Bureau Station in the State. This latter article will prove to the satisfaction of those interested what an abundance of sunshine there is to be found in this State.

Very respectfully, etc.,

JAMES A. BARWICK,  
Observer and Director.

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SUMMARY OF TEMPERATURE AND PRECIPITATION.

FOR JANUARY.

*Temperature.*—Normal for the State,  $45.6^{\circ}$ ; average for January,  $46.1^{\circ}$ ; departure from normal,  $+0.5^{\circ}$ . Highest monthly mean,  $58^{\circ}$ , at Whittier, Los Angeles County; lowest monthly mean,  $23^{\circ}$ , at Truckee, in the mountain regions of Nevada County. Highest,  $88^{\circ}$ , at Escondido, San



Diego County; lowest,  $23^{\circ}$  below zero, at Boca, in the mountain regions of Nevada County. Absolute range for the State,  $111^{\circ}$ ; greatest local monthly range,  $78^{\circ}$ , at Boca; least local monthly range,  $22^{\circ}$ , at Lakeport, Lake County.

*Precipitation.*—Normal for the State, 4.52 inches; average for January, 9.08 inches; departure from normal, +4.56 inches. Greatest monthly, 28.90 inches, at Middletown, Lake County; least monthly, 0.35 of an inch, at Keeler, Inyo County.

#### FOR FEBRUARY.

*Temperature.*—Normal for State,  $48.8^{\circ}$ ; average for February,  $51.3^{\circ}$ ; departure from normal, + $2.5^{\circ}$ . Highest monthly mean,  $66.7^{\circ}$ , at Volcano Springs; lowest monthly mean,  $26.3^{\circ}$ , at Boca. Highest,  $96^{\circ}$ , at Indio, on the 28th; lowest,  $15^{\circ}$  below zero, at Boca, on the 5th. Absolute range for the State,  $111^{\circ}$ ; greatest local monthly range,  $75^{\circ}$ , at Boca; least local monthly range,  $22^{\circ}$ , at San Miguel Island.

*Precipitation.*—Normal for the State, 3.56 inches; average for February, 2.28 inches; departure from normal, -1.28 inches. Greatest monthly, 12.55 inches, at Fordyce Dam; least monthly, none, at Barstow, Indio, Ogilby, Palm Springs, Salton, and Volcano Springs.

#### FOR MARCH.

*Temperature.*—Normal for State,  $53.0^{\circ}$ ; average for March,  $52.6^{\circ}$ ; departure from normal, - $0.4^{\circ}$ . Highest monthly mean,  $76.4^{\circ}$ , at Mojave; lowest monthly mean,  $27^{\circ}$ , at Bodie. Highest,  $102^{\circ}$ , at Ogilby, on the 26th; lowest,  $11^{\circ}$  below zero, at Bodie, on the 13th. Absolute range for the State,  $113^{\circ}$ ; greatest local monthly range,  $67^{\circ}$ , at Bodie; least local monthly range,  $27^{\circ}$ , at Point Lobos.

*Precipitation.*—Normal for State, 3.43 inches; average for March, 2.66 inches; departure from normal, -0.77 of an inch. Greatest monthly, 12.54 inches, at Morse's House, Little Bear Valley, a station of Arrowhead Reservoir Company, in the Sierra Madre range of mountains, San Bernardino County; least monthly, a trace, at Keeler and Mammoth Tank.

#### FOR APRIL.

*Temperature.*—Normal for State,  $57.7^{\circ}$ ; average for April,  $57.9^{\circ}$ ; departure from normal, + $0.2^{\circ}$ . Highest monthly mean,  $83.9^{\circ}$ , at Volcano Springs; lowest monthly mean,  $34^{\circ}$ , at Bodie. Highest,  $108^{\circ}$ , at Palm Springs, on the 13th; lowest,  $5^{\circ}$ , at Bodie, on the 5th. Absolute range for the State,  $103^{\circ}$ ; greatest local monthly range,  $66^{\circ}$ , at Tulare; least local monthly range,  $22^{\circ}$ , at Point Lobos.

*Precipitation.*—Normal for the State, 2.36 inches; average for April, 1.40 inches; departure from normal, -0.96 of an inch. Greatest monthly, 11.70 inches, at Bowman's Dam, Nevada County; least monthly, nothing, at numerous places throughout the State.

#### FOR MAY.

*Temperature.*—Normal for the State,  $64.1^{\circ}$ ; average for May,  $63.9^{\circ}$ ; departure from normal, - $0.2^{\circ}$ . Highest monthly mean,  $95.8^{\circ}$ , at Palm Springs; lowest monthly mean,  $44^{\circ}$ , at Cisco. Highest temperature,

116°, at Salton and Volcano Springs, on the 8th; lowest temperature, 15°, at Bodie, on the 29th. Absolute range for the State, 101°; greatest local monthly range, 68°, at Barstow; least local monthly range, 26°, at Eureka.

*Precipitation.*—Normal for the State, 0.89 of an inch; average for May, 1.02 inches; departure from normal, +0.13 of an inch. Greatest monthly, 8.55 inches, at La Porte; least monthly, nothing, at various points in the State.

#### FOR JUNE.

*Temperature.*—Normal for the State, 70.8°; average for June, 70.0°; departure from normal, —0.8°. Highest monthly mean, 96.4°, at Salton; lowest monthly mean, 51.7°, at Bodie. Highest temperature, 123°, at Volcano Springs, on the 23d; lowest temperature, 20°, at Bodie, on the 1st. Absolute range for the State, 103°; greatest local monthly range, 70°, at Turlock; least local monthly range, 22°, at the Hotel Del Coronado.

*Precipitation.*—Normal for the State, 0.31 of an inch; average for June, 0.01 of an inch; departure from normal, —0.30 of an inch. Greatest monthly, 0.29 of an inch, at Bodie; least monthly, nothing, at numerous places throughout the State.

#### FOR JULY.

*Temperature.*—Normal for the State, 73.1°; average for July, 72.8°; departure from normal, —0.3°. Highest monthly mean, 103.2°, at Volcano Springs, in the desert regions; lowest monthly mean, 56.0°, at Eureka. Highest temperature, 121°, at Volcano Springs, in the desert regions, on the 16th; lowest temperature, 29°, at Boca, in the high mountain regions, on the 4th. Absolute range for the State, 92°; greatest local monthly range, 65°, at Turlock; least local monthly range, 17°, at Hotel Del Coronado.

*Precipitation.*—Normal for the State, 0.05 of an inch; average for July, 0.09 of an inch; departure from normal, +0.04 of an inch. Greatest monthly, 1.55 inches, at Dunsmuir; least monthly, nothing, at numerous places throughout the State.

#### FOR AUGUST.

*Temperature.*—Normal for the State, 73.7°; average for August, 73.0°; departure from normal, —0.7°. Highest monthly mean, 104°, at Ogilby, in the desert regions; lowest monthly mean, 54°, at Eureka and Point Reyes, along the coast. Highest temperature, 124°, on the 5th, at Volcano Springs, in the desert regions; lowest temperature, 22°, on the 30th, at Bodie, in the mountain regions. Absolute range for the State, 102°; greatest local monthly range, 67°, at Bodie and Turlock; least monthly range, 16°, at the Hotel Del Coronado.

*Precipitation.*—Normal for the State, 0.03 of an inch; average for August, 0.03 of an inch; departure from normal, 0.00. Greatest monthly, 0.94 of an inch, at Edgewood; least monthly, nothing, at numerous places throughout the State.

## FOR SEPTEMBER.

*Temperature.*—Normal for the State, 69.8°; average for September, 65.1°; departure from normal, —4.7°. Highest monthly mean, 92°, at Palm Springs, in the desert regions; lowest monthly mean, 47°, at Bodie, in the mountain regions. Highest temperature, 115°, at Volcano Springs, in the desert regions; lowest temperature, 6°, on the 22d, at Bodie, in the mountain regions. Absolute range for the State, 109°; greatest local monthly range, 72°, at Bodie; least monthly range, 26°, at Hotel Del Coronado and Point Lobos.

*Precipitation.*—Normal for State, 0.21 of an inch; average for September, 1.44 inches; departure from normal, +1.23 inches. Greatest monthly, 9.57 inches, at Upper Mattole; least monthly, nothing, at a few stations in the southern portion of the State. This is the heaviest rainfall on record for September during a period of 46 years.

## FOR OCTOBER.

*Temperature.*—Normal for the State, 61.1°; average of the State for October, 61.5°; departure from normal, +0.4°. Highest monthly mean, 82.7°, at Salton, in the desert regions; lowest monthly mean, 38°, at Bodie, in the mountain regions. Highest temperature, 108°, at Indio, Salton, and Volcano Springs, in the desert regions; lowest temperature, 6°, at Bodie, in the mountain regions. Absolute range for the State, 102°; greatest local monthly range, 64°, at Turlock; least local monthly range, 25°, at Berkeley.

*Precipitation.*—Normal for the State, 1.22 inches; average for October, 0.28 of an inch; departure from normal —0.94 of an inch. Greatest monthly, 3.15 inches, at Piedras Blancas Lighthouse; least monthly, nothing, at a number of places.

## FOR NOVEMBER.

*Temperature.*—Normal for the State, 53.4°; average of the State for November, 52.8°; departure from normal, —0.6°. Highest monthly mean, 69.9°, at Salton, in the desert regions of Riverside County; lowest monthly mean, 27°, at Bodie, in the high mountain regions of Mono County. Highest temperature, 98°, at Salton, on the 19th; lowest temperature, 1° below zero, at Bodie, on the 30th. Absolute range for State, 99°; greatest local range, 68°, at Middletown, Lake County; least local range, 33°, at Point Lobos, San Francisco County.

*Precipitation.*—Normal for the State, 2.43 inches; average for November, 1.43 inches; departure from normal, —1.00 inch. Greatest monthly, 5.34 inches, at Fort Ross, Sonoma County; least monthly, nothing, at Pasadena, Ravenna, and Volcano Springs.

## FOR DECEMBER.

*Temperature.*—Normal for the State, 52.9°; average for December, 46.1°; departure from normal, —6.8°. Highest monthly mean, 71°, at Santa Ana; lowest monthly mean, 21°, at Bodie, in the mountain regions of Mono County. Highest temperature, 110°, on the 12th, at



Salton, in the desert regions of Riverside County; lowest temperature,  $19^{\circ}$  below zero, at Adin, Modoc County, on the 22d, and at Bodie, Mono County, on the 29th, in the high mountain regions of the State. Absolute range for the State,  $129^{\circ}$ ; greatest local range,  $92^{\circ}$ , at Salton; least local range,  $18^{\circ}$ , at Point Lobos, San Francisco County.

*Precipitation.*—Normal for the State, 4.42 inches; average for December, 1.95 inches; departure from normal,  $-2.47$  inches. Greatest monthly, 11.20 inches, at Bowman's Dam, in Nevada County; least monthly, nothing, at Barstow, McMullen, and Needles.

#### FOR THE YEAR.

*Temperature.*—The normal annual temperature for the State is  $60.1^{\circ}$ ; the average for 1895 is  $59.4^{\circ}$ ; departure from the normal,  $-0.6^{\circ}$ . The highest temperature was  $124^{\circ}$ , on the 5th of August, at Volcano Springs, in the desert regions of Riverside County; the lowest temperature was  $23^{\circ}$  below zero, in January, at Boca. The absolute range for the State was  $147^{\circ}$ .

*Precipitation.*—The normal for the State is 23.41 inches; the average for 1895 is 21.67 inches; departure from the normal,  $-1.74$  inches. The greatest monthly precipitation was 28.90 inches, in January, at Middletown, Lake County; the least monthly, nothing, at numerous places during February, April, May, June, July, August, September, October, November, and December.

## TEMPERATURE AND PRECIPITATION

*Annual and Monthly Miscellaneous Climatic Data of the California Weather Service, for the  
Total Precipitation for each*

Compiled from the Records of the Voluntary

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
Arrowhead Reservoir Company—								
Engineer's Quarters .....				15.27				2.01
Morse House .....				18.00				5.85
Grass Valley .....				16.65				3.39
Deep Creek .....				13.14				2.13
Holcumb Creek .....				10.06				.61
Squirrel Inn .....				14.22				5.35
Green Valley .....				14.38				1.94
Tunnel No. 2 .....				9.94				.92
Adin .....	25.4	49	-12	4.23	30.9	56	-5	.79
Ager .....	34.4	54	12	3.14	41.2	66	20	.80
Arlington Heights .....	49.4	76	32	6.09	54.2	81	30	1.01
Athlone* (8) .....	46.7	64	36	3.21	51.5	75	35	2.42
Bakersfield (8) .....	48.5	68	27	2.49	57.0	79	34	.53
Ballast Point Lighthouse .....				5.51				.54
Bear Valley .....				29.22				6.64
Berkeley .....	46.6	62	34	10.88	52.3	67	40	3.25
Bishop .....	33.2	61	9	2.60	43.6	69	22	.38
Boca* (8) .....	26.1	55	-23	8.36	29.3	60	-15	1.20
Borden* (8) .....	47.1	60	28	2.91	53.7	78	35	1.55
Caliente* (8) .....	49.3	67	37	5.28	53.7	72	36	3.10
Calloway Canal (Bakersfield P. O.) .....				2.43				.40
Cape Mendocino Lighthouse .....				12.00				4.96
Cedarville .....	29.4	58	6	1.51	35.9	58	12	1.09
Centreville* (1) .....	51.2	68	37	6.81	56.2	74	41	2.55
Chico* (8) .....	48.8	66	33	11.77	55.6	78	36	2.58
Cloverdale* (1) .....	48.8	62	31	26.45	56.2	74	35	5.05
Colegrove* (1) .....				5.84				.70
Corning* (8) .....	44.2	64	30	14.62	53.1	73	34	2.83
Crescent City .....	46.3	62	31	12.16	48.8	65	28	4.80
Davisville (near) .....	52.4	83	33	8.71	60.6	89	34	1.82
Delano* (8) .....	47.8	69	30	2.79	52.5	70	35	.63
Delta* (8) .....	40.2	55	30	18.55	48.2	76	30	7.03
Drytown .....	44.6	63	28	9.89	51.8	72	35	3.24
Dunnigan* (8) .....	47.2	64	30	10.38	54.2	74	32	.76
East Brothers Lighthouse .....				8.35				.96
Edgewood* (8) .....	33.1	51	11	4.56	37.8	57	19	.36
Edmonton (Meadow Valley P. O.)* (1) .....	29.2	46	12	26.12	34.9	55	21	5.83
Escondido .....	50.1	88	29	10.55	54.6	85	35	.95
Evergreen .....				6.56				1.73
Fallbrook* (1) .....	48.4	78	32	12.52	52.2	81	40	1.59
Folsom* (1) .....	47.1	64	31	11.24	52.7	72	38	2.59
Fordyce Dam (Cisco P. O.) .....				31.34				12.55
Fort Ross .....				28.50				6.02
Georgetown .....	39.8	61	25	20.52	49.3	72	33	7.69
Greenville .....	25.5	44	-2	23.78	29.4	64	-1	3.56
Goshen* (8) .....	46.0	62	29	3.74	52.8	70	32	1.05
Grass Valley .....				22.26				6.18
Hollister .....				5.74	52.0	76	30	1.49
Hueneme .....				4.78				.55
Humboldt Lighthouse .....				9.82				4.68
Iowa Hill* (1) .....	41.1	64	29	18.64	50.2	76	38	5.57
Jackson .....	39.8	56	27	12.04	45.8	69	30	6.22
Jolon .....				6.16				.32
Julian .....	41.4	64	21	16.32	48.8	71	27	3.80
Keeler* (8) .....	43.9	60	30	.35	49.4	69	32	1.15
Keene* (8) .....	43.9	65	25	6.03	48.1	67	32	2.71

## AT VARIOUS PLACES IN CALIFORNIA.

Year 1895, showing the Mean Temperature, Maximum and Minimum Temperatures, and Month and for the Year.

Weather Observers throughout the State.

March.				April.				May.				June.			
Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
---	---	---	8.82	---	---	---	1.31	---	---	---	.00	---	---	---	.00
---	---	---	12.54	---	---	---	2.91	---	---	---	.00	---	---	---	.00
---	---	---	10.13	---	---	---	1.92	---	---	---	.00	---	---	---	.00
---	---	---	7.21	---	---	---	1.36	---	---	---	.00	---	---	---	.00
---	---	---	4.86	---	---	---	.62	---	---	---	.00	---	---	---	.00
---	---	---	9.58	---	---	---	2.53	---	---	---	.00	---	---	---	.00
---	---	---	9.24	---	---	---	1.24	---	---	---	.00	---	---	---	.00
---	---	---	5.32	---	---	---	0.86	---	---	---	.00	---	---	---	.00
37.8	65	11	1.20	46.7	80	20	1.31	52.8	88	31	2.58	58.5	89	28	.00
44.6	74	18	1.12	53.7	90	24	.33	59.2	96	32	.94	69.9	102	34	.00
54.2	88	31	1.96	59.1	87	38	.23	65.5	97	42	.00	68.6	101	43	.00
56.3	80	38	1.24	67.5	88	55	.65	67.2	94	50	.62	85.9	108	50	.00
58.1	79	38	1.15	65.2	90	42	.29	75.0	99	51	.31	85.9	106	63	.00
---	---	---	1.69	---	---	---	.09	---	---	---	.20	---	---	---	.00
---	---	---	7.42	---	---	---	3.25	---	---	---	7.26	---	---	---	.00
51.5	70	35	2.64	55.0	72	40	2.30	60.0	89	44	1.06	62.3	90	45	.00
46.2	76	17	.47	54.1	82	27	.18	61.8	92	32	.03	66.7	99	34	.12
32.2	60	7	.45	38.8	60	17	.70	52.7	82	32	.90	57.4	92	35	T.
57.3	80	35	.94	62.3	85	42	.20	69.9	100	54	.54	81.5	114	55	.00
55.6	75	40	1.67	61.6	86	43	.85	69.5	97	52	.87	81.4	106	56	.00
---	---	---	.87	---	---	---	.30	---	---	---	.42	---	---	---	.00
---	---	---	8.08	---	---	---	2.93	---	---	---	4.26	---	---	---	.00
38.2	68	10	.49	47.5	78	20	.66	53.8	84	28	1.47	61.2	90	28	.00
56.1	76	41	2.15	59.9	85	47	1.73	63.3	97	54	.86	67.9	105	56	.00
57.0	80	40	2.67	62.2	92	40	3.25	68.4	98	54	.51	80.4	108	55	.00
54.8	71	34	5.16	60.2	90	38	2.00	65.6	93	48	2.45	75.4	106	50	.00
---	---	---	4.43	---	---	---	.50	---	---	---	.09	---	---	---	.00
58.6	75	36	3.42	60.9	92	40	.90	70.8	96	54	.20	82.3	107	60	.00
47.2	69	28	.44	50.5	80	33	4.35	52.8	85	37	6.79	55.6	84	36	.00
61.2	86	34	1.30	63.1	93	40	.65	66.6	93	45	.48	74.8	102	53	.00
55.0	77	37	.34	63.2	93	42	.31	72.6	96	55	.33	81.5	107	57	.00
51.5	76	30	7.72	58.1	94	35	1.71	65.2	96	48	6.85	75.3	103	52	.00
51.4	75	30	3.39	56.3	89	30	3.64	60.7	92	35	2.57	72.2	107	44	.00
56.0	76	32	1.23	64.0	88	46	1.46	74.3	94	54	.30	84.0	106	70	.00
---	---	---	1.06	---	---	---	.16	---	---	---	.25	---	---	---	.00
40.9	61	23	2.84	48.5	79	26	.08	57.5	88	38	.73	68.8	93	45	.00
35.8	56	15	10.59	42.1	72	19	3.80	48.4	81	29	7.18	59.7	90	32	.00
55.6	85	33	1.20	58.3	85	34	.50	68.2	97	41	.35	70.8	108	42	.00
---	---	---	2.18	---	---	---	2.02	---	---	---	1.25	---	---	---	.00
52.8	84	38	2.14	56.5	82	44	.61	63.0	92	44	.24	64.8	103	48	.00
53.8	75	38	2.53	59.2	92	40	2.05	66.7	95	55	1.43	77.4	107	60	.00
---	---	---	10.61	---	---	---	3.29	---	---	---	6.70	---	---	---	.00
---	---	---	6.57	---	---	---	2.60	---	---	---	3.84	---	---	---	.00
47.4	75	24	4.67	53.8	83	30	4.77	58.1	83	37	4.30	69.6	95	40	.00
33.9	67	6	5.29	47.0	81	19	2.29	53.8	88	29	3.42	60.0	95	29	.00
53.9	78	30	.94	61.3	92	34	.35	71.7	96	54	.00	80.8	104	65	.00
---	---	---	5.01	---	---	---	3.38	---	---	---	3.46	---	---	---	.00
53.2	80	29	1.95	55.8	79	30	1.34	59.3	93	38	1.00	63.5	98	38	.00
---	---	---	1.62	---	---	---	.24	---	---	---	.09	---	---	---	.00
---	---	---	7.10	---	---	---	2.72	---	---	---	4.14	---	---	---	.10
48.4	76	28	4.60	54.9	84	34	3.93	60.8	87	43	3.92	72.3	99	52	.00
45.6	68	26	3.86	52.0	78	32	3.92	57.0	82	35	2.68	69.5	99	48	.00
---	---	---	1.68	---	---	---	.85	---	---	---	.02	---	---	---	.00
51.4	85	28	5.04	54.1	90	30	.95	59.6	96	34	.45	66.4	102	35	T.
54.8	70	39	T.	63.1	88	43	.25	73.5	94	50	T.	79.5	104	59	T.
48.6	80	34	2.40	54.7	82	30	1.95	62.1	90	44	1.25	72.8	100	50	.00



## TEMPERATURE AND PRECIPITATION AT

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
Kennedy Gold Mine (Jackson P. O.)	42.8	58	26	13.11	50.2	69	34	5.39
Kernville	---	---	---	5.10	---	---	---	1.55
Kings City* (8)	52.9	70	28	3.89	50.4	83	32	.35
Kingsburg* (8)	46.4	58	30	3.33	53.8	70	34	.94
Kono Taye (Lakeport P. O.)	42.7	53	31	14.45	49.2	67	35	2.32
La Grange* (5)	46.8	59	32	5.17	55.2	73	40	2.60
La Porte* (1)	29.8	50	13	22.01	37.0	58	23	6.65
Lemoore* (8)	46.4	64	29	2.32	52.6	73	33	.74
Lick Observatory	36.4	58	23	10.00	45.6	64	32	3.08
Lime Kiln	50.0	80	30	N.G.	53.8	74	34	N.G.
Lime Point Lighthouse	---	---	---	7.27	---	---	---	2.65
Lodi	46.4	59	29	7.46	52.2	71	33	2.35
Los Alamos	---	---	---	6.90	---	---	---	1.20
Los Gatos	44.9	62	30	14.67	51.2	70	38	1.95
Malakoff Mines (North Bloomfield P. O.)* (1)	---	---	---	24.40	45.4	73	32	7.28
Manzana	39.4	60	20	2.79	46.4	70	28	.00
Mare Island Lighthouse	---	---	---	8.21	---	---	---	1.95
Merced* (8)	45.8	59	30	2.12	53.2	69	36	1.71
Middletown* (1)	43.6	64	26	28.90	48.4	79	27	3.40
Mills College	---	---	---	9.79	---	---	---	3.60
Milton (near)* (1)	49.0	62	32	8.65	55.9	73	45	2.30
Modesto* (8)	45.8	61	28	4.05	49.1	72	32	1.39
Mojave* (8)	42.9	62	24	2.66	50.2	72	33	.53
Mokelumne Hill* (3)	41.4	---	28	10.06	48.2	---	39	4.40
Mount Glenwood (Winters P. O.)* (1)	45.9	64	32	15.40	54.1	72	40	2.15
Monterey* (8)	50.8	66	30	6.30	52.4	68	30	---
Mutah Flat	---	---	---	9.80	---	---	---	.78
Napa City (near)	48.2	62	32	9.35	53.4	72	35	2.92
Needles	50.8	67	31	1.38	59.0	80	36	.03
Nevada City	38.2	61	19	22.87	46.0	71	27	5.53
Newcastle	41.9	56	26	13.10	49.9	66	36	3.42
Newhall* (8)	46.9	74	24	7.11	53.0	82	29	.31
Nordhoff	51.6	84	30	8.61	51.6	75	32	.46
Oakland	47.2	61	35	11.32	52.1	68	36	3.09
Ogilby* (8)	56.8	78	40	.45	62.0	85	41	.00
Oleta* (1)	39.8	60	22	13.25	46.0	69	32	5.75
Ontario* (8)	49.0	72	31	10.65	55.0	79	36	1.64
Orangevale	44.8	59	29	9.53	51.0	68	34	2.42
Orland* (8)	43.7	60	30	8.25	51.2	75	35	2.66
Ormonde (Washington P. O.)	---	---	---	22.23	---	---	---	5.34
Oroville	46.8	63	32	11.92	52.6	74	37	.85
Palermo	46.2	64	27	10.08	50.8	75	30	2.83
Paso Robles	45.6	64	26	6.43	49.8	70	30	.47
Piedras Blancas Lighthouse	---	---	---	4.86	---	---	---	1.66
Pigeon Point Lighthouse	---	---	---	6.52	---	---	---	1.33
Pilot Creek	---	---	---	20.54	---	---	---	8.23
Placerville	40.2	60	21	17.85	45.6	65	27	5.07
Point Lobos	47.8	62	38	5.61	51.9	64	41	2.30
Point Año Nuevo Lighthouse	---	---	---	4.91	---	---	---	.66
Point Arena Lighthouse	---	---	---	13.61	---	---	---	3.53
Point Bonito Lighthouse	---	---	---	12.16	---	---	---	3.55
Point Conception	---	---	---	3.86	---	---	---	.67
Point Fermin Lighthouse	---	---	---	4.55	---	---	---	.50
Point Loma Lighthouse	---	---	---	3.74	---	---	---	.38
Point Sur Lighthouse	---	---	---	8.27	---	---	---	1.54
Point Montara	---	---	---	8.65	---	---	---	1.63
Pomona (Agricultural Experiment Station)	51.7	72	30	8.73	56.6	82	32	5.66
Point Pinos	---	---	---	9.22	---	---	---	1.91
Porterville* (8)	48.8	68	32	3.82	54.8	72	38	1.54
Point Reyes Lighthouse	---	---	---	9.43	---	---	---	1.34
Poway* (3)	45.8	---	29	12.65	48.8	---	34	1.08
Ravenna* (8)	46.0	68	33	2.35	52.2	72	36	.55

## VARIOUS PLACES IN CALIFORNIA—Continued.

March.				April.				May.				June.			
Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
50.2	73	28	4.48	55.2	84	31	5.08	60.2	88	38	3.18	72.3	102	44	.00
			1.80				.37				.00				.00
59.1	84	30	1.51	61.8	92	38	.40	58.7	102	40	.13	66.1	105	45	.00
56.1	72	37	1.15	63.0	90	43	.58	72.1	98	55	.36	83.7	105	60	.00
50.2	67	33	3.13	56.0	81	32	.98	60.6	84	44	1.14	71.4	97	44	.00
56.0	80	34	2.50	60.2	92	34	1.40	65.7	96	46	.97	78.2	110	47	.00
34.5	61	13	6.12	41.4	63	21	4.00	46.6	72	32	8.55	59.1	85	38	.00
54.3	79	31	1.01	61.8	90	40	.33	69.8	98	50	.26	80.3	108	54	.00
42.8	64	22	1.46	47.2	74	24	2.30	52.2	79	31	2.39	65.2	90	35	.00
55.4	84	31	N.G.	61.4	95	31	N.G.	69.2	101	44	N.G.	78.8	110	43	N.G.
			1.75				1.25				.60				.00
53.8	77	32	1.45	57.6	87	38	1.24	63.1	92	44	.63	71.6	102	47	.00
			1.44				.43				.56				.00
51.3	71	36	3.96	54.6	78	40	2.87	58.8	86	43	1.00	65.9	93	45	.00
45.4	74	26	7.01	52.8	84	28	5.18	59.2	86	40	6.03	68.4	90	47	.00
48.0	77	22	1.36	54.7	83	29	.08	63.5	94	33	T.	72.8	100	40	.00
			2.09				1.72				.49				.00
53.2	74	36	1.17	58.5	89	42	.50	67.2	100	50	.64	79.6	109	52	.00
48.8	78	27	5.87	55.0	92	32	1.77	62.1	96	40	1.75	71.8	104	46	.00
			2.39				1.47				1.18				.00
56.8	81	38	2.31	61.5	95	32	2.91	66.4	97	50	1.10	76.5	109	57	.00
49.9	78	34	1.83	59.2	87	40	1.17	70.2	98	53	.45	79.1	104	56	.00
51.0	83	27	1.01	59.9	89	40	.00	68.7	98	44	.00	80.3	105	53	.00
47.4		30	3.73	53.3		32	4.03	60.4		48	2.56	73.5		53	.00
54.4	69	42	2.38	60.7	86	48	1.41	67.7	93	51	.77	76.4	105	59	.00
53.8	70	38	1.94	55.9	70	36	.89	58.7	88	46	.58	58.6	78	48	.00
			2.92				.00				.00				.00
54.0	75	32	2.21	58.4	85	39	1.11	62.2	89	44	.85	67.6	94	48	.00
62.5	91	40	.06	71.9	97	47	.09	81.9	106	59	.00	86.9	112	63	.00
45.2	71	25	5.12	51.1	87	25	3.82	56.8	82	33	3.42	65.8	91	34	.00
50.2	71	30	3.42	55.6	85	30	2.49	61.2	90	40	1.69	73.5	103	42	.00
53.0	90	31	3.66	59.1	87	42	.39	66.5	97	50	.00	70.9	100	54	.00
52.8	86	29	3.38	57.4	85	34	.35	64.1	100	40	.00	67.0	104	40	.00
50.6	71	37	2.00	56.4	79	40	1.93	59.0	87	46	1.12	60.0	92	46	.00
70.4	102	52	.00	75.6	102	58	.00	84.4	114	60	.00	93.0	116	65	.00
47.3	69	28	3.94	50.5	80	35	4.25	58.0	85	45	2.25	72.8	96	51	.00
56.6	85	40	3.72	63.2	85	50	.73	69.0	95	51	.30	74.0	100	56	.00
52.6	69	35	2.23	60.2	88	37	1.54	67.0	94	49	1.12	77.3	112	50	.00
52.8	75	36	2.09	60.8	98	44	1.24	69.0	100	50	.58	80.8	111	59	.00
			6.60				4.16				5.60				.00
49.0	70	37	2.60	55.8	74	36	2.65	65.4	94	48	.65	80.4	104	54	.00
53.2	74	31	1.91	59.3	91	32	1.96	67.6	98	39	.76	80.2	111	49	.00
51.8	75	26	1.28	55.4	82	31	.48	61.2	94	36	.08	66.2	102	36	.00
			2.28				.94				.39				.00
			1.79				1.57				1.04				.00
			6.27				4.36				5.46				.00
45.4	68	26	4.43	51.8	81	26	4.75	58.0	86	34	2.58	70.2	100	39	.00
49.3	67	40	1.91	52.8	66	44	1.09	54.8	81	46	.75	55.2	75	47	.00
			.55				1.00				1.16				.00
			4.99				2.05				2.47				.00
			3.14				1.28				1.17				.00
			1.37				.43				.70				.00
			2.65				.13				.30				.00
			1.05				.10				.04				.00
			2.25				1.89				.66				.00
			1.68				1.58				.89				.00
57.6	94	34	3.56	61.6	88	38	.66	68.2	99	43	.00	71.3	106	43	.00
			2.41				1.55				.82				.00
56.4	81	40	1.10	64.6	90	44	.41	73.4	98	54	.35	83.9	108	62	.00
			2.63				1.02				1.25				.02
49.2		34	1.24	54.0		42	.46	61.3		54	.26	66.5		57	.00
51.3	80	32	1.87	57.1	88	40	.00	67.0	97	48	.00	76.8	105	58	.00

## TEMPERATURE AND PRECIPITATION AT

Names of Stations of Observation.	January.				February.			
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
Redding	43.4	66	30	12.84	52.6	77	32	3.08
Redlands				8.66				1.30
Reedley (near)* (1)	47.8	64	32	4.00	53.6	70	38	2.10
Represa	45.3	60	27	11.36	46.0	68	30	2.64
Rio Vista	45.0	60	28	7.96	51.1	71	32	2.60
Riverside	49.8	79	27	6.21	50.8	83	30	1.01
Rosewood (Hunter's P. O.)	40.7	62	23	11.93	47.5	75	26	2.34
Sacramento	47.2	62	30	9.17	52.9	72	33	1.74
Salinas				5.10				1.41
Salton* (8)	50.9	69	37	.00	60.2	90	37	.00
San Bernardino	47.7	73	27	7.39	54.2	80	32	1.14
San Jacinto	48.0	77	27	7.81	53.5	81	31	1.53
San José	45.0	64	21	6.28	51.0	77	26	1.42
San Leandro* (1)	51.5	67	37	8.21	51.3	77	40	2.69
San Luis Obispo Lighthouse				6.04				1.19
Santa Paula	46.0	70	29	6.90	51.4	79	31	.60
San Mateo* (8)	49.6	62	35	9.50	52.9	69	37	
San Miguel* (8)	47.8	63	26	4.22	48.5	76	30	.33
San Miguel Island	54.9	70	39	4.10	59.2	76	54	.63
Santa Barbara	51.7	72	38	6.25	55.8	80	38	.67
Santa Clara* (6)	47.5	63	30	5.93	53.1	71	35	1.24
Santa Cruz	50.8	68	32	9.11	54.8	76	35	4.07
Santa Maria	52.7	73	34	4.43	50.3	78	35	1.22
Santa Rosa* (8)	48.4	59	30	8.42	53.5	70	32	3.35
Saticoy				6.78				.74
Shasta Springs	33.9	47	12	11.82	40.3	60	25	4.90
Snedden's Ranch				6.31				.49
S. E. Farallone Lighthouse				8.45				1.44
Stanford University	46.6	64	31	6.54	51.4	70	34	1.45
Stockton (near)	45.6	59	30	5.24	52.2	68	34	1.70
Summerdale				16.04				5.29
Susanville	29.9	56	-3	10.29	35.2	53	21	3.00
Sutter Creek* (5)	38.2	56	22	9.34	45.0	66	28	2.35
Tehama* (8)	46.1	68	32	11.23	53.1	74	34	2.85
Templeton* (8)	46.2	64	28	7.71	51.7	73	30	.86
Truckee* (8)	22.7	45	-11	11.73	26.3	44	-4	1.92
Tulare (J. Tuohy)				4.11				1.40
Tulare (Agricultural Experiment Station)	48.7	70	28	3.52	56.5	84	32	1.23
Turlock	44.8	59	25	3.66	50.7	71	29	1.25
Tecarte Dam (San Diego P. O.)* (4)	40.0	76	22	19.24	44.8	78	24	2.00
Ukiah	44.3	63	25	19.20	49.4	75	29	5.17
Upper Mattole* (1)	48.4	66	30	23.37	51.5	75	30	8.88
Yacaville* (1)	46.6	62	32	12.81	52.6	74	38	3.04
Ventura	51.8	74	36	6.11	55.7	83	37	1.00
Volcano Springs* (8)	58.4	80	40	1.42	66.7	92	42	.00
West Point				14.80				6.55
Wheatland	45.2	59	31	8.95	52.0	72	34	2.06
Williams* (8)	46.1	65	30	6.32	52.0	75	35	1.28
Willows* (8)	43.7	64	32	9.97	51.3	75	35	1.65
Wilmington* (8)	55.0	71	38	N.G.	59.8	80	43	N.G.
Wire Bridge (Auburn P. O.)* (5)	45.0	61	28	14.44	50.2	71	30	3.15
Weaverville				13.73				3.51
Yreka	32.2	53	9	5.30	40.0	65	17	1.03
Yuba City* (5)	47.8	62	34	9.53	55.4	69	39	1.75

NOTE.—For explanation of reference marks, see p. 184.



## VARIOUS PLACES IN CALIFORNIA—Continued.

March.				April.				May.				June.			
Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
52.8	78	32	2.78	58.2	90	34	.99	65.8	93	46	2.61	76.4	102	45	.00
			3.27				1.37				.57				.00
54.5	80	38	1.55	62.3	90	43	.55	69.6	96	52	.40	81.4	106	57	.00
49.5	66	30	2.50	56.1	82	30	2.26	63.7	88	46	1.83	73.1	100	50	.00
60.2	72	32	1.00	57.7	89	34	.91	63.3	94	45	.84	71.4	105	46	.00
56.7	89	33	2.42	60.6	88	38	.25	67.7	99	42	.26	71.4	104	42	.00
52.2	78	27	2.27	57.2	92	30	1.26	65.6	101	41	.42	77.2	110	42	.00
55.0	72	34	1.29	59.4	84	39	.90	65.2	92	45	.68	74.4	103	46	.00
			2.07				.94				.45				.00
67.8	105	49	.00	80.1	105	58	.00	90.1	116	70	.00	96.4	121	72	.00
55.4	86	33	3.44	61.0	89	33	.64	66.3	95	42	.44	70.4	99	42	.00
54.6	90	30	.99	58.4	89	31	.51	65.8	97	37	.26	69.0	100	39	.03
53.0	79	25	1.46	54.8	82	26	2.05	58.0	90	32	1.36	63.8	96	35	.00
55.0	78	41	2.06	58.4	77	45	1.96	61.7	88	54	.82	64.7	94	54	.00
			2.33				.91				.35				.00
49.4	79	30	3.13	52.8	79	35	.30	58.5	94	36	.00	59.9	95	35	.00
54.5	71	39	.05	58.4	75	46	1.61	62.3	89	50	.38	64.6	94	53	.00
54.2	81	32	1.10	59.5	83	44	.47	66.2	94	50	.09	75.9	104	53	.00
53.4	70	37	2.12	55.6	77	44	.10	56.6	82	47	.05	60.6	89	47	.00
53.6	78	38	1.99	57.5	78	43	.46	60.5	81	46	.02	62.5	90	46	.05
53.1	70	34	2.03	55.8	80	37	1.94	57.8	86	44	.98	63.9	90	42	.00
54.9	79	33	3.08	57.2	79	36	2.02	61.0	92	40	1.15	62.5	96	43	.00
55.4	82	33	1.25	56.8	80	39	.53	59.2	94	40	.51	62.2	92	40	.00
53.7	69	34	2.94	59.4	85	39	1.35	65.6	86	52	1.39	71.6	98	53	.00
			2.47				.16				.00				.00
40.6	56	18	7.20	50.4	74	38	3.06	52.0	82	32	4.10	60.0	92	35	.35
			1.50				.11				.00				.00
			2.83				.48				.15				.00
51.4	71	33	1.69	54.8	79	38	1.55	57.6	88	31	.66	59.2	95	30	.00
53.2	72	34	1.00	57.8	85	39	.63	62.6	92	46	.77	71.4	102	50	.00
			5.81				2.32				2.34				.00
36.3	63	9	1.26	50.7	79	26	.50	58.0	84	32	1.50	68.0	95	33	T.
45.2	68	24	2.50	50.5	80	25	3.95	57.6	83	36	2.33	67.0	98	38	.00
54.0	78	39	2.32	58.0	94	40	.48	70.7	92	55	.80	80.2	106	59	.00
51.8	78	30	1.44	59.9	80	45	.81	63.9	97	44	.22	68.2	108	45	.00
30.5	52	4	1.72	38.4	70	12	.50	46.3	78	26	2.40	55.7	88	38	.00
			.76				.77				.59				.00
56.5	86	30	.86	61.2	94	28	.60	68.2	102	40	.60	80.4	118	42	.00
51.8	74	29	2.11	57.2	88	32	1.07	59.4	97	36	.39	73.7	111	41	.00
47.2	88	28	1.43	47.3	83	32	.51	55.9	98	38	.39	64.2	105	50	.00
49.6	74	26	4.80	53.2	86	27	1.36	58.2	90	37	1.96	67.4	100	40	.00
51.3	74	30	10.20	52.0	90	32	6.81	56.2	90	42	7.20	60.8	89	48	.00
53.4	74	33	2.07	59.2	90	45	2.08	65.3	94	52	1.02	75.4	106	60	.00
53.8	85	35	3.17	57.2	78	41	.47	59.4	75	44	.07	62.7	85	44	.00
71.0	102	48	.00	83.9	106	65	.00	93.4	116	69	.00	99.7	123	86	.00
			4.65				3.44				3.27				.00
53.0	75	34	1.63	58.5	91	34	1.34	64.8	95	45	1.29	75.8	107	49	.00
53.7	78	34	1.34	60.9	91	38	.75	69.2	96	52	.13	87.9	106	63	.00
53.1	75	35	1.55	61.8	87	45	.90	68.8	95	52	.78	82.2	108	62	.00
60.0	78	41	N.G.	62.6	72	50	N.G.	67.8	74	61	N.G.	69.8	80	60	N.G.
52.0	71	32	3.34	58.8	87	35	3.46	64.7	89	49	2.21	75.0	100	51	.00
			5.47				1.88				3.25				.06
43.4	68	18	2.26	50.4	84	22	.81	56.2	91	28	1.59	65.0	98	32	.00
57.2	69	42	1.12	61.7	84	42	1.00	69.8	86	58	.58	81.4	100	66	.00

## TEMPERATURE AND PRECIPITATION AT

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.
Arrowhead Reservoir Co.—											
Engineer's Quarters	---	---	---	.00	---	---	---	.00	---	---	---
Morse House	---	---	---	.00	---	---	---	.00	---	---	---
Grass Valley	---	---	---	.00	---	---	---	.00	---	---	---
Deep Creek	---	---	---	.00	---	---	---	.00	---	---	---
Holcumb Creek	---	---	---	.00	---	---	---	.00	---	---	---
Squirrel Inn	---	---	---	.00	---	---	---	.00	---	---	---
Green Valley	---	---	---	.00	---	---	---	.00	---	---	---
Tunnel No. 2	---	---	---	.00	---	---	---	.00	---	---	---
Adin	64.6	93	35	.20	67.2	103	38	.37	56.0	88	24
Ager	73.8	102	46	.62	73.6	106	46	.58	62.0	90	32
Arlington Heights	71.2	98	48	.00	71.2	97	44	.00	70.0	100	44
Athlone* (8)	86.4	110	65	.00	87.4	114	73	.00	77.3	99	55
Bakersfield* (8)	87.0	106	70	.00	86.4	109	63	.00	73.7	98	56
Ballast Point Lighthouse	---	---	---	.00	---	---	---	.00	---	---	---
Bear Valley	---	---	---	.04	---	---	---	.20	---	---	---
Berkeley	62.8	85	52	.04	62.2	85	51	.00	58.0	87	50
Bishop	72.1	100	46	.12	73.0	103	40	.01	64.0	92	36
Boca* (8)	60.1	94	36	.00	57.9	96	35	T.	51.6	95	26
Borden* (8)	80.9	110	60	.00	81.3	113	55	.00	70.9	102	52
Caliente* (8)	83.3	102	62	.00	84.5	110	61	.00	73.8	93	53
Calloway Canal (Bakersfield)	---	---	---	.00	---	---	---	.00	---	---	---
Cape Mendocino Lighthouse	---	---	---	.33	---	---	---	.31	---	---	---
Cedarville	67.2	92	41	.11	68.2	100	41	.54	57.0	86	22
Centreville* (1)	68.0	102	58	T.	68.0	99	58	.00	66.0	100	53
Chico* (8)	81.4	108	64	.47	82.8	110	58	.00	68.8	98	50
Cloverdale* (1)	74.5	102	52	.17	74.4	106	49	.00	70.0	100	49
Colegrove	---	---	---	.00	---	---	---	.00	---	---	---
Corning* (8)	85.0	106	65	.00	84.0	110	60	.00	70.7	96	52
Crescent City	58.4	86	41	.77	55.9	71	40	.05	56.0	83	38
Davisville (near)	73.8	100	53	.02	74.4	102	49	.00	69.0	99	41
Delano* (8)	84.2	103	65	.00	84.6	109	59	.00	74.2	97	53
Delta* (8)	77.5	102	57	1.07	76.0	108	50	.00	65.3	96	49
Drytown	73.6	105	47	T.	75.0	107	47	T.	67.0	96	38
Dunnigan* (8)	78.2	104	64	.04	77.6	102	56	.00	74.8	98	55
East Brothers Lighthouse	---	---	---	.00	---	---	---	.00	---	---	---
Edgewood* (8)	72.4	98	50	.00	70.3	103	45	.94	58.0	83	30
Edmanton (Mead. Val. P.O.)* (1)	62.2	89	42	.88	63.1	94	40	.27	53.0	85	30
Escondido	72.1	93	50	.00	73.4	95	46	.00	71.0	96	46
Evergreen	---	---	---	.00	---	---	---	.00	---	---	---
Fallbrook* (1)	67.6	95	52	.00	68.1	95	51	.00	67.0	102	45
Folsom* (1)	76.7	104	62	T.	77.0	104	57	T.	68.0	94	48
Fordyce Dam (Cisco P. O.)	---	---	---	.60	---	---	---	T.	---	---	---
Fort Ross	---	---	---	1.31	---	---	---	.00	---	---	---
Georgetown	72.0	95	70	.03	73.5	98	48	.07	63.0	87	40
Greenville	63.8	95	35	.35	64.9	105	32	.48	55.0	90	26
Goshen* (8)	82.4	104	64	.00	80.1	108	53	.00	67.8	99	39
Grass Valley	---	---	---	.25	---	---	---	.24	---	---	---
Hollister	64.7	92	44	.02	64.1	95	43	.00	64.0	96	38
Hueneme	---	---	---	.00	---	---	---	.00	---	---	---
Humboldt Lighthouse	---	---	---	.22	---	---	---	.03	---	---	---
Iowa Hill* (1)	74.8	99	54	.03	75.1	101	54	.27	64.0	91	48
Jackson	70.0	91	45	.07	71.2	95	46	T.	61.0	84	39
Jolon	---	---	---	.00	---	---	---	.00	---	---	---
Julian	72.0	102	46	T.	73.1	99	36	.70	67.0	95	42
Keeler* (8)	85.1	106	70	T.	84.2	106	64	T.	75.1	98	49
Keene* (8)	76.5	99	59	.00	75.9	102	48	.00	65.6	93	40
Kennedy G. M. (Jackson P. O.)	72.8	98	48	.00	74.9	104	48	.00	66.0	92	44
Kernville	---	---	---	.00	---	---	---	.00	---	---	---
Kings City* (8)	66.0	100	50	.00	63.6	102	45	.00	64.0	100	48
Kingsburg* (8)	85.0	105	70	.60	82.3	110	60	.00	71.5	95	50
Kono Tave (Lakeport P. O.)	74.2	96	50	.00	75.8	98	54	T.	66.0	87	50

## VARIOUS PLACES IN CALIFORNIA—Continued.

Sept.	October.				November.				December.				Annual.			
Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.
.00	---	---	---	.00	---	---	---	2.65	---	---	---	1.75	---	---	---	31.79
.00	---	---	---	.00	---	---	---	4.18	---	---	---	3.11	---	---	---	46.59
.00	---	---	---	.00	---	---	---	3.26	---	---	---	2.32	---	---	---	37.67
.00	---	---	---	.00	---	---	---	2.45	---	---	---	1.09	---	---	---	27.38
.00	---	---	---	.00	---	---	---	1.66	---	---	---	.41	---	---	---	9.22
.00	---	---	---	.00	---	---	---	2.92	---	---	---	1.98	---	---	---	23.58
.00	---	---	---	.00	---	---	---	5.04	---	---	---	1.40	---	---	---	33.24
.00	---	---	---	.00	---	---	---	2.34	---	---	---	.96	---	---	---	20.34
2.31	55.0	82	22	.00	38.0	71	9	.60	29.0	58	-19	2.26	46.8	103	-19	15.84
1.58	60.0	86	30	.00	41.0	64	16	.53	32.0	58	4	2.71	53.8	106	4	12.35
.00	65.0	100	44	.00	57.0	90	31	.89	52.0	84	29	.18	61.5	101	29	10.36
.02	66.4	95	50	.25	50.0	76	24	.81	43.4	72	28	.76	65.5	114	28	9.98
.00	70.9	89	46	1.06	53.8	76	38	.54	45.2	60	29	.33	67.2	109	27	6.70
.00	---	---	---	.12	---	---	---	1.56	---	---	---	.35	---	---	---	10.06
5.18	---	---	---	1.25	---	---	---	3.08	---	---	---	9.45	---	---	---	72.99
1.28	56.0	83	47	.07	55.0	82	38	1.78	47.0	58	34	2.20	55.7	90	34	25.50
.01	54.0	89	27	.19	43.0	83	12	.21	34.0	57	9	.03	53.8	103	9	4.35
.97	48.2	93	23	.11	38.7	89	12	.01	31.2	79	-5	1.52	43.7	96	-23	14.22
.00	67.1	99	40	.00	50.8	80	25	.36	47.9	70	30	.52	64.3	114	25	7.02
.00	67.6	90	51	2.31	53.0	78	39	1.51	46.1	65	27	1.20	65.0	110	27	16.79
.00	---	---	---	.55	---	---	---	.73	---	---	---	.22	---	---	---	5.92
1.89	---	---	---	.04	---	---	---	2.76	---	---	---	6.93	---	---	---	42.49
1.23	54.0	80	24	.09	36.0	66	10	.26	29.0	54	-4	1.84	48.1	100	-4	9.29
.75	63.0	93	50	.72	57.0	86	40	1.80	50.0	64	37	1.36	60.6	105	37	18.73
3.15	65.6	94	42	.00	52.2	80	30	1.17	45.3	68	28	1.78	64.0	110	28	27.35
2.64	67.0	90	42	.12	57.4	88	34	2.20	48.2	59	30	5.63	62.7	106	30	51.87
.00	---	---	---	.22	---	---	---	1.11	---	---	---	.98	---	---	---	13.87
3.16	68.0	93	45	.00	56.4	83	36	1.25	45.9	62	30	2.17	64.6	110	30	---
.98	55.0	82	43	.00	50.0	80	26	1.79	46.0	63	30	7.11	51.8	86	26	47.42
T.	68.0	93	40	.03	60.0	90	32	1.25	53.0	85	29	1.19	64.7	102	29	16.43
T.	69.5	97	49	.65	54.9	78	36	.90	45.8	67	27	.12	65.5	109	27	6.07
5.18	62.5	90	42	.00	49.9	80	23	2.15	40.9	68	20	5.98	59.2	108	20	56.24
1.10	63.0	92	37	.13	52.0	79	29	.67	43.0	64	24	1.96	59.2	107	24	26.59
1.59	67.3	92	40	.38	54.8	82	32	1.41	45.0	65	28	1.26	64.8	106	28	18.81
.50	---	---	---	.05	---	---	---	1.85	---	---	---	1.10	---	---	---	14.28
1.59	56.1	77	34	.05	41.1	60	20	.75	32.7	56	7	.51	51.4	103	7	12.41
9.35	52.0	77	35	1.13	40.0	70	22	3.48	32.0	57	10	9.22	46.0	94	10	77.85
.11	64.0	92	44	.25	57.0	88	31	1.73	51.0	80	22	.50	62.2	108	22	16.03
.00	---	---	---	.90	---	---	---	1.48	---	---	---	1.19	---	---	---	17.42
1.43	62.0	90	44	.06	55.0	90	38	1.46	52.0	88	32	.47	59.1	103	32	19.09
5.62	64.0	88	44	.09	51.0	75	35	2.06	44.0	63	30	1.73	61.5	107	30	25.15
3.93	---	---	---	.44	---	---	---	2.53	---	---	---	10.19	---	---	---	83.87
2.64	63.0	84	44	.00	---	---	---	5.34	---	---	---	6.02	---	---	---	64.13
5.64	53.0	84	22	.75	40.0	74	12	1.60	31.0	54	-2	5.17	46.4	105	-2	52.33
.00	63.4	92	39	.31	49.7	76	28	.98	41.9	70	22	.25	62.6	108	22	7.62
3.87	---	---	---	.02	---	---	---	1.17	---	---	---	7.27	---	---	---	53.11
.06	62.0	88	40	.82	52.0	84	24	.88	46.0	68	23	1.07	---	98	23	14.37
.00	---	---	---	.23	---	---	---	1.09	---	---	---	.23	---	---	---	8.83
3.48	---	---	---	.04	---	---	---	3.40	---	---	---	7.47	---	---	---	43.25
2.91	63.0	88	49	.17	52.0	88	33	1.61	44.0	71	28	5.87	58.6	101	28	47.52
1.14	60.0	81	44	.28	48.0	74	32	.93	41.0	58	24	3.67	55.1	99	24	34.81
.03	---	---	---	1.80	---	---	---	.96	---	---	---	.50	---	---	---	12.32
.00	59.0	92	35	.70	49.0	77	25	2.60	45.0	70	23	.75	57.2	102	21	31.31
T.	65.1	89	44	.00	53.9	79	35	.00	43.4	66	28	T.	64.2	106	28	1.75
.00	60.6	87	42	1.37	48.8	72	28	1.65	40.7	68	28	1.90	58.3	102	25	19.26
1.71	64.0	89	44	.19	51.0	76	32	.90	42.0	61	24	3.62	58.5	104	24	37.66
.00	---	---	---	.50	---	---	---	.95	---	---	---	.40	---	---	---	10.67
.05	58.1	90	40	1.46	48.6	80	24	.51	45.8	68	20	.49	58.0	105	20	8.79
.00	66.6	90	40	.13	49.2	70	30	.53	43.1	65	23	.55	64.4	110	23	7.47
.71	64.0	80	48	.00	52.0	82	37	1.69	44.0	66	29	2.12	58.8	98	29	26.54



## TEMPERATURE AND PRECIPITATION AT

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Precipitation, Inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.
La Grange* (5) .....	80.4	108	56	.00	81.0	113	54	.00	72.1	103	46
La Porte* (1) .....	61.6	86	44	1.41	61.1	88	40	.29	50.0	78	33
Lemoore* (8) .....	81.1	104	61	.00	80.7	108	52	.00	69.3	97	42
Lick Observatory .....	67.2	85	41	.01	70.4	91	49	.00	59.0	83	35
Lime Kiln .....	80.8	108	53	N.G.	81.4	112	51	N.G.	73.0	102	40
Lime Point Lighthouse .....				.00				.00			
Lodi .....	71.4	99	49	.00	71.8	101	51	T.	66.0	93	41
Los Alamos .....				.00				.00			
Los Gatos .....	65.0	93	44	.00	65.7	94	46	.00	62.0	94	40
Malakoff Mines* (1) .....	71.0	91	54	.14	71.5	94	50	.41	60.0	84	41
Manzana .....	76.8	99	51	.00	77.8	106	48	.00	67.0	96	32
Mare Island Lighthouse .....				.00				.00			
Merced* (8) .....	76.2	106	59	.00	78.5	106	55	.00	77.6	99	50
Middletown* (1) .....	71.6	104	50	.10	72.5	105	45	.00	64.0	102	44
Mills College .....				.00				.00			
Milton (near)* (1) .....	76.5	102	59	T.	79.1	108	58	.00	72.0	99	52
Modesto* (8) .....	78.1	101	58	.00	75.7	105	50	.00	68.0	96	50
Mojave* (8) .....	84.3	108	68	.00	85.5	111	57	.00	73.9	100	45
Mokelumne Hill* (3) .....	75.6		55	.00	76.0		54	T.	63.4		48
Mt. Glenwood (Winters P.O.)* (1) .....	78.7	102	62	.09	80.4	104	57	.00	71.0	95	56
Monterey* (8) .....	58.8	76	52	.00	60.1	78	50	.00	62.4	88	46
Mutah Flat .....				.00				.00			
Napa City (near) .....	67.4	93	51	.03	67.2	91	50	.00	65.0	90	49
Needles .....	93.0	113	69	T.	93.2	116	66	T.	84.0	106	55
Nevada City .....	67.0	91	44	.15	67.1	92	43	.29	58.0	84	35
Newcastle .....	73.8	100	48	.04	76.2	102	50	.02	65.0	90	43
Newhall* (8) .....	73.7	101	58	.00	75.0	104	51	.00	69.6	101	48
Nordhoff .....	64.6	96	38	.00	65.0	94	37	.00	68.0	103	31
Oakland .....	63.1	88	49	.03	58.7	84	50	.00	59.0	86	49
Ogilby* (8) .....	96.6	117	85	.00	103.5	122	83	.00	90.5	111	65
Olata* (1) .....	69.6	95	55	T.	70.7	99	50	T.	61.0	88	43
Ontario* (8) .....	75.2	97	61	.00	73.7	96	55	.00	71.1	96	54
Orangevale .....	75.7	105	52	.00	75.4	105	49	T.	66.0	93	41
Orland* (8) .....	84.6	109	60	.27	84.1	113	60	.00	71.0	99	54
Ormonde (Washington P. O.) .....				.02				.16			
Oroville .....	78.6	104	50	.33	80.1	107	58	.00	72.0	94	50
Palermo .....	74.3	105	42	.30	79.7	110	50	.05	67.0	97	43
Paso Robles .....	70.6	99	45	.00	68.7	102	44	.00	64.0	91	33
Piedras Blancas Lighthouse .....				.00				.00			
Pigeon Point Lighthouse .....				.00				.00			
Pilot Creek .....				T.				.18			
Placerville .....	70.6	100	46	T.	69.4	93	42	T.	60.0	87	31
Point Lobos .....	57.5	69	50	.03	56.9	71	50	.01	58.0	75	49
Point Año Nuevo Lighthouse .....				.00				.00			
Point Arena Lighthouse .....				.25				.00			
Point Bonito Lighthouse .....				.00				.00			
Point Conception .....				.00				.00			
Point Fermin Lighthouse .....				.00				.00			
Point Loma Lighthouse .....				.00				.00			
Point Sur Lighthouse .....				.11				.00			
Point Montara .....				.00				.00			
Pomona (Agr. Expt. Station) .....	75.0	104	50	.00	74.0	99	46	.00	71.0	99	44
Point Pinos .....				.05				.00			
Porterville* (8) .....	84.9	106	70	.00	84.0	110	64	.00	78.9	98	44
Point Reyes Lighthouse .....				.40				.00			
Poway* (3) .....	65.2	89	60	.00	65.9	93	58	T.	69.0	96	55
Ravenna* (8) .....	76.4	100	58	.00	76.2	104	52	.00	67.7	95	49
Redding .....	79.2	101	55	.95	81.2	106	57	T.	68.0	94	47
Redlands .....				.00				.00			
Reedley (near)* (1) .....	82.2	106	64	T.	82.4	108	58	.00	73.0	98	48
Reprea .....	72.9	98	52	.00	74.2	98	52	T.	66.0	88	42
Rio Vista .....	70.4	103	50	.00	71.7	104	48	T.	65.0	95	39

## VARIOUS PLACES IN CALIFORNIA—Continued.

Sept.	October.				November.				December.				Annual.			
	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature
.20	68.0	96	42	.54	54.0	77	29	.72	45.0	72	27	1.55	63.6	113	27	15.65
8.42	50.0	70	34	.69	40.0	72	19	3.35	32.0	59	12	9.98	45.3	88	12	71.47
T.	65.4	92	43	.83	49.8	75	25	.70	41.8	70	22	.24	62.8	108	22	6.43
.08	60.0	81	41	.78	48.0	80	28	2.46	41.0	67	23	3.16	52.9	91	23	25.72
N.G.	70.0	98	45	N.G.	55.0	84	31	N.G.	44.0	68	25	N.G.	64.4	112	25	N.G.
1.32				.04				1.85				1.62				18.35
.88	64.0	89	40	.13	52.0	74	27	1.14	45.0	62	26	1.50	59.6	102	26	16.78
.00				.33				.85				.50				12.21
.24	60.0	88	38	1.59	52.0	80	34	1.24	46.0	58	31	2.22	56.4	94	30	29.74
6.22	59.0	81	40	.56	48.0	82	30	2.27	40.0	65	20	6.14		94	20	65.64
.00	59.0	91	36	.40	46.0	75	19	.48	39.0	65	16	.18	57.5	106	16	5.29
1.21				.06				1.58				1.11				18.42
.00	66.5	89	41	.50	53.0	76	30	.69	45.2	65	27	1.03	62.9	109	27	8.36
1.86	63.0	96	36	.00	51.0	92	24	2.06	42.3	66	22	5.59	57.8	105	22	51.30
0.64				.28				1.91				1.93				23.19
.59	70.0	95	50	.08	57.0	71	42	1.11	48.0	65	31	3.09	64.1	109	31	22.14
.13	62.8	94	40	T.	51.2	78	30	.70	44.0	72	26	1.28	61.1	105	26	11.00
.00	66.1	93	48	.80	50.3	80	27	.14	42.8	68	18	.00	63.0	111	18	5.14
.83	62.8		48	.12	50.0		36	1.12	41.0		29	2.88	57.8		28	29.73
.95	69.0	89	48	.07	58.0	88	38	2.06	45.0	62	23	2.53	63.4	105	28	27.81
.00	58.3	76	46	.78	53.7	76	21	.82	53.2	68	28	1.46	56.4	88	28	
.00				.65				1.60				1.10				16.5
1.16	63.0	87	44	.03	55.0	90	36	1.72	48.0	64	32	1.47	59.1	94	23	20.85
.18	73.0	103	53	T.	58.0	79	34	T.	48.0	69	20	.00	71.8		20	1.74
3.36	57.0	81	34	.00	46.0	83	23	1.87	40.0	65	20	6.14	53.2	92	19	52.57
2.00	65.0	87	44	T.	52.0	80	34	1.40	41.0	58	27	2.91	58.8	103	26	30.49
.00	63.5	102	38	10	53.8	94	26	1.09	48.1	83	19	.00	61.1	104	19	12.66
.00	63.0	97	37	.07	57.0	82	30	.62	51.0	88	24	.62	59.4	104	24	14.11
1.07	56.0	84	47	.13	54.0	83	38	2.09	46.0	62	32	1.74	55.2	92	32	24.52
.00	76.5	104	61	.00	59.2	90	39	.15	52.0	77	39	.15	76.7	122	39	.75
2.13	58.0	84	41	.12	47.0	75	29	.74	40.0	60	24	3.50	55.1	99	22	35.93
.00	65.6	96	50	.00	60.0	90	35	1.18	55.0	92	28	2.02	64.0	100	28	20.24
1.50	64.0	88	41	.14	52.0	73	35	1.68	44.0	60	27	1.86	60.8	112	27	22.02
1.67	68.2	97	42	.00	52.9	88	30	1.34	43.2	62	28	1.15	63.5	113	28	19.25
4.37				1.30				2.18				6.82				58.78
4.25	70.0	94	53	.11	61.0	83	42	1.85	46.0	60	28	2.59	63.1	107	28	27.80
3.76	64.0	90	38	.06	51.0	87	26	1.20	43.0	60	26	.67	61.4	111	26	23.58
.00	63.0	91	35	.61	47.0	76	18	1.53	42.0	64	20	.55	57.1	102	18	11.43
.10				3.15				1.26				.25				14.9
.18				.12				.87				1.83				15.25
2.84				.61				1.72				8.28				58.49
1.79	59.0	83	33	.16	46.0	85	19	.77	39.0	60	17	5.24	54.6	100	17	42.64
.88	56.0	74	48	.11												
.04				.03				1.63				.14				10.16
2.31				.05				3.06				4.53				36.85
1.92				.26				2.82				2.78				29.08
.00				1.11				.68				.18				9.00
.00				.05				1.42				.20				9.80
.00				.07				.61				.05				6.04
.00				.92				1.14				1.30				18.38
.50				1.15				1.37				2.18				19.63
.00	67.0	96	40	.08	58.0	93	29	1.08	53.0	85	28	.66	63.8	106	28	20.43
.14				.67				2.82				2.38				21.97
T.	67.8	96	46	.23	53.4	81	34	1.71	45.5	70	30	.51	66.4	110	30	9.67
1.72				.41				2.52				2.27				23.01
.00	64.0	92	50	.25	53.0	92	29	1.40		18		.57		93	18	17.91
.00	63.8	100	42	.72	53.8	84	32	.00	47.9	71	27	.00	61.4	105	27	5.49
3.24	66.0	90	41	.01	54.0	86	29	2.12	42.0	64	28	4.36	61.6	106	28	32.98
.00				.03				2.03				.52				17.75
.00	69.0	94	48	.20	53.0	78	33	.15	44.0	72	27	.60	64.4	108	27	9.55
1.45	64.0	84	44	.07	53.0	70	32	1.98	47.0	64	28	1.98	59.2	100	27	26.04
1.18	63.0	90	40	.19	52.0	74	27	1.82	43.0	62	24	1.17	59.5	105	24	17.67

## TEMPERATURE AND PRECIPITATION AT

Names of Stations of Observation.	July.				August.				September.		
	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature
Riverside	74.8	102	52	T.	75.2	102	45	.00	72.0	102	43
Rosewood (Hunter's P. O.)	78.2	109	40	.45	78.6	111	46	T.	66.0	96	36
Sacramento	72.6	100	50	.03	71.4	98	47	T.	65.0	90	43
Salinas				.00				.00			
Salton* (8)	96.5	121	83	.00	97.9	117	74	.00	91.4	117	70
San Bernardino	76.0	98	49	.00	74.0	100	44	.00	70.0	99	42
San Jacinto	71.8	100	45	T.	73.7	103	45	T.	69.0	98	38
San José	65.8	95	40	.00	64.5	92	43	.00	61.0	91	36
San Leandro* (1)	64.2	92	58	.08	64.4	90	58	.00	64.0	91	55
San Luis Obispo Lighthouse				.00				.00			
Santa Paula	61.4	77	45	.00	61.3	79	46	.00			
San Mateo* (8)	65.0	92	53	.00	63.5	88	57	.00	65.3	93	53
San Miguel* (8)	75.9	100	57	.00	72.8	106	48	.00	67.5	97	45
San Miguel Island	61.8	80	52	.00	61.6	77	48	.00	61.0	87	50
Santa Barbara	65.0	79	54	T.	65.0	78	51	.00	65.6	86	48
Santa Clara* (6)	63.8	90	50	.00	65.4	86	50	.00	62.0	88	46
Santa Cruz	64.1	91	45	.00	62.8	93	47	.00	64.0	93	43
Santa Maria	65.0	85	50	T.	66.0	85	46	.00	65.0	91	44
Santa Rosa* (8)	66.6	85	55	.33	66.9	94	50	.00	65.3	94	50
Saticov				.00				T.			
Shasta Springs	67.1	94	44	.85	66.0	93	42	.10	58.0	85	30
Snedden's Ranch				.00				.00			
S. E. Farallone Lighthouse				.00				.00			
Stanford University	65.3	96	46	.00	65.7	92	47	.00	63.0	92	43
Stockton (near)	71.3	99	52	.00	71.7	100	52	.00	65.0	92	43
Summerdale				T.				T.			
Susanville	74.6	94	54	T.	73.8	100	49	.20	59.0	86	30
Sutter Creek* (5)	68.6	96	42	.00	69.7	98	42	.00	61.0	89	32
Tehama* (8)	83.9	104	62	.60	82.7	106	57	.00	68.8	97	50
Templeton* (8)	68.3	104	52	.00	68.1	102	47	.00	64.4	96	38
Truckee* (8)	61.8	86	44	.00	62.9	95	34	.00	51.6	82	30
Tulare (J. Tuohy)				T.				.00			
Tulare (Agr. Expt. Station)	80.3	114	52	.00	80.2	114	48	.00	70.0	102	34
Turlock	75.6	109	43	T.	76.2	112	45	.00	68.0	102	37
Tecarte Dam (S. Diego P.O.)* (4)	67.9	104	42	.00	67.6	106	42	.00	63.0	103	38
Ukiah	68.0	101	40	.11	70.6	104	42	.00	61.0	93	33
Upper Mattole* (1)	64.0	94	42	.86	63.8	98	44	.00	63.0	93	46
Vacaville* (1)	74.8	104	57	T.	75.5	104	54	.00	68.0	98	52
Ventura	64.6	82	50	.00	64.0	78	50	T.	63.0	88	48
Volcano Springs* (8)	103.2	121	87	.00	103.4	124	72	.00	91.6	115	70
West Point				.00				T.			
Wheatland	75.5	104	51	.05	75.0	106	51	T.	65.0	91	44
Williams* (8)	80.6	100	61	T.	80.0	106	57	.00	69.5	99	49
Willows* (8)	76.5	104	58	.00	81.3	105	57	.08	71.5	95	55
Wilmington* (8)	73.6	84	64	N.G.	72.7	81	61	N.G.	72.0	86	38
Wire Bridge (Auburn P.O.)* (5)	77.0	100	54	T.	75.3	104	54	.25	66.0	91	44
Weaverville				1.03				.16			
Yreka	68.2	99	41	.43	68.8	106	38	.68	58.0	90	26
Yuba City* (5)	79.7	99	64	T.	78.5	102	46	T.	71.0	90	59

\* Extremes of temperature from observed readings of dry thermometer.

A numeral following the name of a station indicates the hours of observations from which the mean temperature was obtained, thus:

(1) Mean of 7 A. M. + 2 P. M. + 9 P. M. ÷ 3.

(2) Mean of 8 A. M. + 8 P. M. ÷ 2.

(3) Mean of 7 A. M. + 7 P. M. ÷ 2.

(4) Mean of 6 A. M. + 6 P. M. ÷ 2.

(5) Mean of 7 A. M. + 2 P. M. ÷ 2.

(6) Mean of readings at various hours reduced to true daily mean by special tables.

(7) Mean of sunrise + 2 P. M. ÷ 2.

(8) Mean of 7 A. M. + 2 P. M. + 9 P. M. ÷ 3.

The absence of numeral indicates that the mean temperature has been obtained from daily readings of the maximum and minimum thermometers.

T indicates a trace of precipitation. A minus sign, thus —, before a figure indicates the temperature to be below zero. N.G.—No gauge.



## VARIOUS PLACES IN CALIFORNIA—Continued.

Sept.	October.				November.				December.				Annual.			
Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches	Mean Temperature	Maximum Temperature	Minimum Temperature	Precipitation, Inches
.00	66.0	100	39	T.	57.0	90	29	1.25	51.0	85	22	.25	62.8	104	22	11.65
.81	62.0	90	35	.97	49.0	83	21	1.70	40.0	66	16	3.25	59.5	111	16	25.40
1.38	63.0	86	42	.27	52.0	72	30	1.55	45.0	65	26	1.50	60.3	103	26	18.51
.00				.56				.79				.83				12.15
.00	82.7	108	60	T.	69.9	98	34	T.	60.2	110	18	.00	78.7	121	18	T.
.00	65.0	99	38	.00	56.0	88	29	1.14	51.0	84	24	.66	62.2	100	24	14.85
.00	67.0	98	42	T.	54.0	86	26	2.09	49.0	82	19	.34	61.2	103	19	13.56
.05	58.0	84	38	.83	50.0	81	25	1.08	45.0	64	20	.84	55.8	96	20	15.37
.63	62.0	86	52	.26	57.0	85	40	2.31	51.0	72	36	2.25	58.8	94	36	21.27
.00				.99				1.90				.53				14.24
.00	61.0	85	44	.00	59.0	92	34	.90	54.0	85	32	.85		95	29	12.68
	61.7	86	51	.33	56.5	79	41	2.08	50.2	64	34	1.63	58.7	94	34	
.00	62.6	90	36	.56	51.0	84	21	1.05	44.3	69	20	.56	60.5	106	20	8.38
.00	60.0	83	46	1.27	59.0	90	38	.40	54.6	72	40	.48	58.2	90	37	9.15
.00	63.4	87	48	.55	59.9	91	40	.77	55.1	84	38	.93	59.6	91	38	11.69
.15	61.0	82	44	.49	51.0	82	34	1.15	44.0	62	28	.77	56.5	90	28	14.68
.18	61.0	86	40	.49	55.0	87	33	1.89	51.0	73	29	2.15	58.3	96	29	24.14
.01	63.0	84	44	.65	58.0	88	33	1.26	52.0	78	31	.60	58.8	94	31	10.46
	59.6	81	45	.00	52.8	81	30	1.83	46.4	67	25	2.95	59.2	98	25	
.00				.00				.58				.50				11.23
5.10	54.0	85	26	.00	43.0	68	22	2.00	35.0	60	13	3.02	50.0	94	12	41.50
.00				.00				.91				.55				9.87
1.76				.12				2.23				1.74				19.20
.11	60.0	86	40	.67	53.0	79	30	1.11	45.0	60	28	1.11	56.1	96	28	13.89
.50	63.0	87	39	.26	51.0	72	28	1.09	44.0	62	25	1.20	59.1	102	25	12.39
.88				.79				1.71				3.11				38.29
3.00	55.0	79	33	.10	40.0	64	16	1.95	33.0	50	5	2.91	51.1	100	-3	24.71
1.29	59.0	85	34	.08	45.0	72	23	.26	37.0	57	22	2.47	53.6	98	22	24.57
2.13	63.7	90	42	.00	52.9	84	32	1.47	45.3	62	30	2.50	63.3	106	30	24.38
	60.7	92	35	1.14	49.0	78	20	1.83	43.4	68	21	1.21	64.6	108	20	
1.32	47.6	74	22	.34	36.2	64	14	.50	26.6	50	-10	.06	42.2	95	-11	23.40
T.				.51				1.13				.45				9.72
.02	66.0	98	38	.43	53.0	86	24	.98	45.0	80	22	.36	63.8	118	22	8.60
.13	64.0	96	32	.21	50.0	78	21	.81	43.0	65	24	.84	59.5	112	21	10.47
.04	63.0	92	32	.63	46.0	88	22	3.00	39.0	79	18	.56	54.2	106	18	27.80
1.70	60.0	88	33	.21	48.0	79	20	2.81	43.0	62	21	4.98	56.1	104	20	42.30
9.57	57.0	89	40	.00	48.0	76	29	4.73	47.0	74	30	9.58	55.2	98	29	81.20
.80	66.0	93	42	.06	56.0	89	35	2.15	45.0	64	29	1.87	61.5	106	29	25.90
T.	63.0	90	47	.10	60.0	94	39	.74	55.0	81	36	.67	59.2	94	36	12.33
.00	79.7	108	60	.00	65.2	90	38	.00	55.2	84	18	.00	89.3	124	18	1.42
1.74				.85				1.35				3.83				40.48
2.63	63.0	89	40	.10	50.0	86	27	1.59	42.0	58	25	1.51	60.0	107	25	21.15
.88	65.0	91	42	.13	54.8	90	28	1.25	44.7	63	27	1.01	63.7	106	27	13.09
1.21	67.8	88	42	1.29	55.0	85	30	2.48	44.1	60	28	.82	63.1	108	28	20.81
N.G.	69.6	80	57	N.G.	62.4	88	40	N.G.	44.8	77	38	N.G.	64.2	88	38	N.G.
1.81	63.0	88	38	.14	50.0	85	25	1.27	44.0	59	22	2.74	60.1	104	22	32.81
3.20				.03				1.94				6.78				41.04
.82	56.0	83	25	T.	39.0	64	13	.86	31.0	57	29	4.31	50.7	106	9	18.09
2.79	67.0	82	53	.06	57.0	80	35	1.85	48.0	62	34	1.25	64.5	102	34	19.98

## Annual Meteorological Summary at EUREKA, CAL., for the Year Ending December 31, 1895.

Month—1895.	Pressure.			Temperature.			Moisture.			Wind (By Self-Registers.)		Number of Days			
	Extremes.		Monthly Mean.	Extremes.		Dew Point.	Relative Humidity.		Precipitation.	Direction at time of Maximum Velocity	Maximum Velocity	Partly Cloudy	Cloudy	Precipitation—.01 Inch and Over	
	Maximum	Minimum		Maximum	Minimum		8 A. M.*	8 P. M.*							
January	In. 29.87	In. 30.24	30.07	° 53.3	° 39.5	° 46.4	° 89	° 80	In. 2.20	S.E.	36	14	9	19	
February	30.07	30.38	29.82	55.4	43.4	49.4	94	83	3.60	N.W.	30	11	10	9	
March	29.99	30.24	29.52	54.7	41.1	47.9	90	76	5.31	N.W.	36	18	7	11	
April	30.06	30.48	29.76	56.3	43.4	49.8	92	77	2.88	N.W.	30	15	7	14	
May	30.01	30.33	29.63	58.3	47.6	53.0	89	76	5.39	N.W.	36	12	9	13	
June	30.03	30.31	29.77	58.6	47.0	52.8	94	78	.06	N.W.	44	18	1	2	
July	29.97	30.14	29.72	61.2	50.9	56.0	95	81	.23	N.W.	36	16	6	4	
August	29.92	30.10	29.76	59.1	49.0	54.0	97	86	.11	N.W.	30	10	10	2	
September	29.95	30.21	29.89	60.2	47.2	53.7	96	81	3.14	W.	34	15	5	4	
October	29.98	30.22	29.75	57.3	46.7	52.0	96	88	.05	N.W.	38	8	18	2	
November	30.06	30.49	29.68	56.2	41.4	48.8	91	84	1.32	E.	36	16	2	10	
December	30.15	30.58	29.64	53.5	40.0	46.8	90	83	7.50	E.	42	14	9	19	
Year	30.00	30.58	29.08	57.0	44.8	50.9	93	81	41.52	N.W.	44	167	93	109	

\* 75th Meridian time.

## Annual Meteorological Summary at FRESNO, CAL., for the Year Ending December 31, 1895.

Month—1895.	Pressure.			Temperature.				Moisture.			Wind. (By Self-Registers.)			Number of Days		
	Extremes.		Monthly Mean.	Extremes.		Dew Point.		Relative Humidity.		Precipitation.	Prevailing Direction	Maximum Velocity	Direction at time of Maximum Velocity	Clear	Partly Cloudy	Cloudy
	In.	In.	°	°	°	°	°	°	Perct.	In.	S.E.	m.p.h.				
January	29.67	29.99	51.5	61	45.3	40	43	92	78	4.14	S.E.	28	N.W.	5	6	20
February	29.76	30.06	62.4	73	52.6	43	47	92	61	1.70	N.W.	20	N.W.	11	11	6
March	29.69	29.89	64.8	77	53.7	43	43	90	52	1.84	N.W.	26	N.W.	9	14	8
April	29.68	30.01	73.3	92	60.0	44	41	84	35	.99	N.W.	26	N.W.	19	6	5
May	29.57	29.76	82.1	98	67.4	44	38	72	26	.52	N.W.	24	W.	23	3	5
June	29.51	29.73	94.6	109	77.2	44	33	56	12	.00	N.W.	22	W.	30	0	0
July	29.50	29.64	96.2	107	79.4	47	36	56	14	T.	N.W.	22	W.	28	3	0
August	29.47	29.62	97.6	110	80.6	46	39	52	15	T.	N.W.	19	N.W.	28	2	1
September	29.54	29.71	86.4	97	70.4	44	37	66	19	.07	W.	26	W.	24	4	2
October	29.59	29.80	80.8	95	66.6	46	43	74	33	.16	N.W.	16	W.	20	8	3
November	29.71	30.11	65.4	80	52.8	36	37	77	43	.12	W.	28	W.	18	8	4
December	29.87	30.17	51.4	71	43.6	36	38	91	70	.78	E.	21	N.W.	10	8	13
Year	29.63	30.17	75.5	110	62.5	43	40	75	38	10.39	N.W.	28	N.W.	225	73	67

\* 75th Meridian time.



## Annual Meteorological Summary at INDEPENDENCE, CAL., for the Year Ending December 31, 1895.

Month—1895.	Pressure.			Temperature.			Moisture.			Wind. (By Self-Registers.)		Number of Days			
	Extremes.			Mean.			Dew Point.			Relative Humidity.		Clear.....	Partly Cloudy.....	Cloudy.....	Precipitation— .01 Inch and Over.....
	In.	In.	In.	°	°	°	°	°	Per cent.	Per cent.	Per cent.	11	10	10	7
January	26.01	26.38	25.43	46.3	29.3	37.8	22	24	63	52	1.24	11	10	10	7
February	26.14	26.45	25.77	56.7	34.3	45.5	25	26	59	38	1.18	17	7	4	4
March	26.02	26.30	25.65	61.4	37.0	49.2	20	15	41	21	.12	15	10	6	2
April	26.05	26.37	25.82	70.9	43.7	57.3	22	12	37	14	T.	17	7	6	0
May	25.97	26.25	25.65	79.4	51.9	65.6	22	18	29	13	.01	15	8	1	1
June	26.05	26.27	25.83	85.1	58.0	71.6	23	21	24	11	T.	23	5	2	0
July	26.02	26.22	25.78	90.1	65.0	78.0	28	28	24	12	T.	18	6	7	0
August	26.02	26.26	25.76	91.8	60.2	76.0	37	34	41	16	.04	22	5	4	1
September	25.97	26.26	25.65	84.5	52.1	68.3	24	21	30	13	T.	21	5	4	0
October	26.06	26.23	25.81	74.6	45.5	60.0	30	30	51	29	.83	20	7	4	4
November	26.07	26.49	25.40	60.8	35.8	48.3	19	18	46	30	.67	15	8	7	1
December	26.14	26.41	25.55	51.1	24.6	37.8	18	18	61	40	.08	18	6	7	2
Year	26.04	26.49	25.40	71.1	44.8	58.0	24.1	22.1	42.2	24.1	4.17	212	84	69	22

\* 75th Meridian time.

## Annual Meteorological Summary at LOS ANGELES, CAL., for the Year Ending December 31, 1895.

Month—1895.	Temperature.				Moisture.				Wind (By Self-Registers.)		Number of Days	
	Pressure.		Extremes.		Mean.		Dew Point.		Relative Humidity.		Precipitation.	
	Maximum	Minimum	Maximum	Minimum	Monthly	Maximum	Minimum	S. P. M.*	S. A. M.*	Per cent.	Per cent.	Maximum in 24 Hours
January	29.66	29.96	29.29	29.53	60.9	43.6	52.2	° 77	° 37	75	75	1.81
February	29.72	30.08	29.53	29.86	67.9	45.8	56.8	° 84	° 36	64	64	.26
March	29.69	29.86	29.49	29.49	65.4	45.6	55.5	° 84	° 38	70	70	3.77
April	29.68	29.88	29.49	29.49	63.4	48.2	58.8	° 82	° 41	64	64	.29
May	29.59	29.72	29.44	29.44	73.9	53.2	63.6	° 88	° 47	64	64	.13
June	29.60	29.69	29.52	29.52	77.4	54.4	65.9	° 100	° 47	59	59	.01
July	29.60	29.69	29.51	29.51	78.7	58.1	68.4	° 85	° 54	67	67	T.
August	29.57	29.72	29.44	29.44	80.2	57.3	68.8	° 88	° 51	68	68	T.
September	29.55	29.64	29.44	29.44	82.7	55.0	68.8	° 97	° 48	60	60	T.
October	29.61	29.76	29.29	29.29	76.3	55.0	65.6	° 91	° 45	76	76	.20
November	29.67	29.95	29.36	29.36	72.6	47.6	60.1	° 94	° 36	59	59	.80
December	29.77	30.08	29.49	29.49	68.9	43.9	56.4	° 86	° 34	59	59	.45
Year	29.64	30.08	29.29	29.29	72.9	50.6	61.7	° 100	° 34	65	65	12.55

\* 75th Meridian time.

## Annual Meteorological Summary at RED BLUFF, CAL., for the Year Ending December 31, 1895.

Month—1895.	Pressure.			Temperature.				Moisture.			Wind. (By Self-Registers.)		Number of Days				
	Extremes.		Monthly Mean	Extremes.		Relative Humidity.	Precipitation.	Dew Point.	Prevailing Direction	Maximum Velocity	Direction at time of Maximum Velocity	Clear	Partly Cloudy	Cloudy	Precipitation— .01 Inch and Over		
	Maximum	Minimum		Maximum	Minimum												
	In.	In.	In.	In.	Per ct.	In.	Per ct.	m.p.h.	S.E.	S.E.	S.E.	11	3	17	15		
January	29.63	30.05	29.94	49.6	38.1	43.8	66	38	40	93	8.29	77	37	S.E.	15	6	15
February	29.75	30.05	29.36	63.6	42.1	52.8	76	41	43	87	2.86	56	33	S.E.	15	6	7
March	29.68	29.89	29.27	62.7	42.9	52.8	74	39	40	82	2.59	49	35	S.E.	13	9	7
April	29.71	30.12	29.53	70.1	48.1	59.1	93	40	40	74	.34	42	35	N.W.	15	9	6
May	29.60	29.89	29.36	77.9	54.5	66.2	98	44	44	70	1.65	37	36	S.E.	20	3	8
June	29.57	29.84	29.37	91.6	64.8	78.2	108	38	40	44	.00	16	36	N.	27	3	0
July	29.55	29.73	29.37	94.2	65.9	80.0	107	45	47	54	.16	21	24	N.	27	2	2
August	29.50	29.70	29.28	95.5	66.8	81.2	107	44	45	47	T.	20	24	N.	26	3	0
September	29.57	29.84	29.35	81.0	56.0	68.5	97	45	46	68	1.76	35	30	S.E.	23	3	4
October	29.63	29.83	29.45	80.7	53.3	67.0	97	43	42	66	T.	32	34	N.	23	7	1
November	29.74	30.13	29.37	64.3	42.9	53.6	85	34	35	72	1.93	44	40	N.	18	5	7
December	29.87	30.20	29.33	50.8	36.1	43.4	61	36	35	86	2.99	68	36	S.	13	8	8
Year	29.65	30.20	28.94	72.7	51.0	62.2	108	41	41	70	22.57*	41	40	N.	231	61	73

\* 75th Meridian time.



Annual Meteorological Summary at SACRAMENTO, CAL., for the Year Ending December 31, 1895.

Days with .01 inch or more of Rain.....	15	4	6	4	4	4	0	1	0	4	3	7	8	56	
Cloudy Days.....	19	8	5	4	2	0	1	4	4	2	4	11	64		
Partly Cloudy Days....	6	6	17	15	11	1	3	4	1	9	7	11	91		
Clear Days.....	6	14	9	11	18	29	27	23	25	20	19	9	210		
Direction at Time of Highest Velocity.....	S.E.	S.E.	S.E.	N.W.	N.W.	N.W.	S.W.	S.	N.W.	W.	N.	S.		SE,N	
Highest Hourly Velocity.....	Mi. 48	30	36	28	44	36	24	20	36	36	48	42			
Prevailing Wind—Direction.....	S.E.	N.	S.E.	S.W.	S.W.	S.W.	S.W.	S.W.	S.W.	S.	S.E.	S.E.		S.W.	
Greatest Precipitation in 24 Hours.....	In. 2.66	1.34	.42	.60	.16	.00	.04	T.	.73	.14	.52	.47			
Monthly Precipitation.....	In. 8.42	1.84	1.20	.86	.51	.00	.04	T.	1.26	.17	1.54	1.54	17.38		
Mean Relative Humidity.....	Per ct. 85.2	74.9	70.6	65.6	63.7	50.2	62.6	59.6	60.8	64.8	67.2	78.6	803.8	67.0	
Mean Dew Point.....	° 41.2	44.8	42.6	44.6	47.8	49.0	54.0	53.8	48.9	49.2	40.7	37.4	554.0	46.2	
Mean Wet Thermometer.....	° 43.6	48.9	47.9	51.0	54.6	58.8	60.0	60.2	56.2	55.4	46.8	41.2	624.6	52.0	
Mean Dry Thermometer.....	° 45.8	53.4	53.2	58.0	62.8	72.0	69.6	70.9	65.6	63.7	52.6	44.2	711.8	59.3	
Lowest Temperature.....	° 30	39	34	41	46	50	51	51	46	44	33	28			
Highest Temperature.....	° 60	68	70	86	94	102	98	99	95	88	75	65			
Mean Minimum Temperature.....	° 40.8	45.4	44.9	48.4	52.9	59.1	57.2	57.4	53.8	52.0	42.9	37.6	592.4	49.4	
Mean Maximum Temperature.....	° 52.0	61.4	62.1	68.3	74.4	86.7	85.6	87.7	80.1	77.4	65.3	51.9	850.9	70.9	
Mean Monthly Temperature of Maximum and Minimum.....	° 46.4	53.4	53.5	58.4	63.6	72.9	71.4	72.6	67.0	64.7	53.1	44.8	721.8	60.2	
Lowest Barometer.....	In. 29.36	29.83	29.76	29.89	29.80	29.73	29.71	29.64	29.74	29.68	29.71	29.72			
Highest Barometer.....	In. 30.36	30.43	30.27	30.43	30.16	30.13	30.06	30.00	30.08	30.19	30.47	30.55			
Monthly Mean Barometer.....	In. 30.01	30.12	30.05	30.07	29.96	29.90	29.89	29.85	29.92	29.96	30.08	30.23	360.04	30.00	
Month—1895.	January	February	March	April	May	June	July	August	September	October	November	December	Sums	Averages	

Highest barometer, 30.55, on December 30. Lowest barometer, 29.36, on January 16. Highest temperature, 102°, on June 23. Lowest temperature, 28°, on December 29. Highest hourly velocity of wind, 48 miles, January and November.

## Annual Meteorological Summary at SAN FRANCISCO, CAL., for the Year Ending December 31, 1895.

Month—1895.	Pressure.		Temperature.				Moisture.			Wind. (By Self-Registers.)		Number of Days	
	Extremes.		Mean.		Extremes.		Dew Point.	Relative Humidity.		Prevailing Direction	Maximum Velocity <i>m.p.h.</i>	Direction at time of Maximum Velocity	Clear.....
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum		S. A. M.*	S. P. M.*				
January	29.84	29.20	53.0	44.3	63	38	° 42	Per ct. 88	In. 6.99	S. E.	44	N.	9
February	29.97	29.69	60.2	47.4	69	41	° 46	90	2.31	W.	31	S.	16
March	29.91	29.60	57.1	47.2	70	40	° 44	86	1.89	W.	36	S. E.	9
April	29.95	29.74	60.4	49.1	73	44	° 45	84	1.24	W.	35	W.	15
May	29.86	29.72	63.9	51.4	89	48	° 47	85	.60	W.	36	W.	19
June	29.82	29.66	65.8	51.6	86	48	° 49	89	.00	S. W.	40	W.	20
July	29.81	29.68	63.4	53.5	83	50	° 52	92	.01	S. W.	38	W.	11
August	29.77	29.61	63.5	53.2	80	50	° 52	94	.00	S. W.	36	S. W.	14
September	29.80	29.68	67.2	54.2	89	51	° 51	85	.77	W.	35	W.	17
October	29.84	29.58	65.5	52.0	83	48	° 52	93	.11	W.	36	W.	17
November	29.92	29.56	62.4	49.9	83	42	° 44	76	1.78	W.	36	W.	18
December	30.00	29.59	53.5	43.8	60	39	° 42	88	.34	N.	34	S.	15
Year	29.88	29.20	61.3	49.8	* 89	38	° 47	88	17.13	W.	-----	-----	180
													124
													61
													65

\* 75th Meridian time.

## Annual Meteorological Summary at SAN LUIS OBISPO, CAL., for the Year Ending December 31, 1895.

Month—1895.	Pressure.				Temperature.				Moisture.		Wind. (by Self Registrars.)		Number of Days	
	Extremes.		Mean.		Extremes.		Dew Point.		Relative Humidity.	Precipitation.	Prevailing Direction.	Maximum Velocity.	Direction at time of Maximum Velocity.	
	In.	In.	°	°	°	°	°	°	Per cent.	In.	N.W.	in. p.h.	N.W.	Precipitation— of Inch and Over.
January	29.80	30.11	57.7	41.7	76	33	39	43	82	8.05	N.W.	.33	N.W.	13
February	29.89	30.19	64.9	44.1	79	33	42	46	86	1.82	N.E.	.25	W.	7
March	29.85	30.04	61.0	43.9	81	31	42	44	85	2.44	W.	.27	W.	10
April	29.87	30.14	64.4	46.9	76	39	43	45	79	.67	N.W.	.30	N.E.	7
May	29.78	29.97	69.6	48.1	90	40	45	49	82	.47	N.W.	.28	N.W.	3
June	29.76	29.87	77.9	49.2	99	37	46	49	82	.00	N.W.	.18	N.W.	5
July	29.76	29.87	77.8	53.4	93	44	51	54	86	.00	N.W.	.18	W.	0
August	29.73	29.86	78.1	53.1	90	44	52	53	89	.00	N.W.	.14	W.	0
September	29.73	29.85	79.6	49.6	99	42	44	47	78	.00	N.W.	.18	N.W.	0
October	29.77	29.95	75.0	50.4	92	39	50	52	89	1.80	N.W.	.16	N.W.	5
November	29.85	30.20	70.8	42.4	93	28	36	42	70	1.56	N.	.22	N.	4
December	29.97	30.26	64.6	40.8	80	28	34	36	69	.68	N.	.24	N.	2
Year	29.81	30.26	70.1	47.0	99	28	43.7	46.7	81.4	17.49	N.W.	.....	.....	46

\*74th Meridian time.



## Annual Meteorological Summary at SAN DIEGO, CAL., for the Year Ending December 31, 1895.

Month—1895.	Pressure.		Temperature.				Moisture.				Wind. (By Self-Registers.)		Number of Days																		
	Extremes.		Mean.		Extremes.		Dew Point.		Relative Humidity.		Precipitation.	Direction at time of Maximum Velocity.	Clear	Partly Cloudy	Cloudy	Precipitation— .01 Inch and Over															
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	8 A. M.*	8 P. M.*	8 A. M.*	8 P. M.*	Total	Maximum in 24 Hours	Prevailing Direction	Maximum Velocity	m.p.h.	S.	W.	S.	W.	N.W.	S.W.	N.W.	W.	N.W.	W.	N.W.	N.E.	N.W.	W.		
January	30.19	29.62	61.2	45.1	55.2	°	42	47	81	74	7.33	2.15	N.W.	22	17	6	8	11	6	3	0	0	0	0	0	1	1	3	2	2	11
February	30.30	29.81	64.6	47.1	55.8	°	44	47	89	68	.53	.29	W.	25	15	7	6	7	9	2	2	0	0	0	0	1	1	2	2	5	5
March	30.10	29.82	62.8	47.9	55.4	°	47	48	85	71	1.43	.70	N.W.	24	16	8	7	11	4	2	2	0	0	0	1	1	3	2	7	9	
April	30.09	29.77	65.9	49.8	57.8	°	49	51	89	69	.11	.08	W.	16	15	11	4	4	2	2	0	0	0	0	1	1	3	2	7	9	
May	30.05	29.78	67.3	56.5	61.9	°	53	53	84	70	.19	.15	W.	23	14	11	6	6	2	2	0	0	0	0	1	1	3	2	7	9	
June	29.95	29.81	68.6	57.5	65.0	°	55	55	86	79	.00	.00	S.W.	17	21	6	3	11	6	3	0	0	0	0	1	1	3	2	7	9	
July	29.96	29.80	70.6	60.7	65.6	°	57	58	85	72	.00	.00	W.	16	27	2	2	11	6	3	0	0	0	0	1	1	3	2	7	9	
August	29.98	29.72	72.5	61.7	61.7	°	59	60	85	73	.00	.00	W.	16	22	8	1	6	2	2	0	0	0	0	1	1	3	2	7	9	
September	29.91	29.74	75.1	59.7	67.4	°	54	57	77	66	.01	.01	N.W.	18	27	2	1	6	2	2	0	0	0	0	1	1	3	2	7	9	
October	30.04	29.62	70.6	58.2	64.4	°	56	57	84	73	.27	.22	N.W.	16	16	12	3	6	2	2	0	0	0	0	1	1	3	2	7	9	
November	30.20	29.69	68.7	50.1	59.4	°	41	49	65	65	1.19	.46	N.E.	26	21	4	5	6	2	2	0	0	0	0	1	1	3	2	7	9	
December	30.34	29.84	65.0	44.8	54.9	°	32	42	56	51	.27	.15	N.E.	18	24	6	1	6	2	2	0	0	0	0	1	1	3	2	7	9	
Year	29.92	29.62	67.8	53.3	60.0	°	49.1	52.0	79.8	69.0	11.33	—	W.	—	255	83	47	42	42	42	42	42	42	42	42	42	42	42	42	42	42

\* 75th Meridian time.

**FROST.****How and When to Prevent Injury Thereby.**

By W. H. HAMMON, Forecast Official United States Weather Bureau, San Francisco, Cal.

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It is the aim of this paper to describe (1) methods of preventing or diminishing injury from frost, and (2) the means of determining when danger from this source is imminent.

In studying methods of preventing injury from frost, a clear knowledge of the conditions under which it forms is essential. Frost occurs when water vapor from the surrounding air is condensed upon plants and other objects which have been cooled below the freezing point by the radiation of heat. Radiation is most rapid when the air is dry and when there is nothing to obscure the sky. Vapor, or water in its invisible form, is always present in greater or less quantities in our atmosphere, and can always be condensed into water if the temperature be sufficiently lowered. If the condensation takes place at temperatures above the freezing point of water, the moisture is deposited as dew; if below the freezing point, the condensation is in the form of frost.

The temperature at which condensation begins is called the "dew-point," and varies with the amount of moisture in the air, being higher the greater the amount of moisture present. It is always constant for the same amount of vapor.

The temperature of the dew-point can be readily determined by the use of two ordinary thermometers, one of which is covered with thin muslin which is kept moistened with water. The evaporation of the water about the wet bulb lowers the temperature and causes this thermometer to read lower than the one with a dry bulb, the difference being greater the drier the air. From the difference between these readings and the temperature of the air itself, the dew-point can be quite accurately determined from the table given at the end of this paper. This apparatus is known as the wet- and dry-bulb hygrometer. A preferable form of the instrument is the "sling psychrometer," where the two thermometers are attached to the same back and arranged with a cord or handle for whirling, by which good ventilation is assured. Such an instrument is extremely valuable to the orchardist or gardener in assisting him to know when frost is imminent.

The surface of the earth is continually losing heat by radiation into space, but during the day it usually receives heat from the sun more rapidly than it loses it by radiation, and consequently it grows warmer. At night, however, solar heat is cut off and continued radiation causes the temperature to fall. Under favorable conditions this will continue until the dew-point is reached, when the heat received by condensation practically prevents further cooling. The heat given off by the condensation of vapor is something enormous. The condensation of a pint of water from its vapor state will result in enough heat to raise more than five pints of water from the freezing to the boiling point.

Radiation takes place most rapidly when there is nothing to obscure the sky. Clouds or any other obstruction act as a screen in retarding it. Radiation takes place more rapidly from the surfaces of plants, etc., than it does from the air about them, so that on still nights these surfaces are frequently cooled several degrees below the temperature of the surrounding air.

One more principle should be considered in a study of the conditions under which frost forms, and that is the increased density of the air as its temperature is lowered. Owing to this principle the air on calm nights arranges itself in accordance with its density. The heavier, cold air falls to the surface and surrounds the plants and trees, thus increasing their liability to injury. On still nights this fact is often very manifest. Frequently a thermometer close to the ground will read 5° or 10° lower than one eight or ten feet higher. This principle causes the air on slopes, as it becomes chilled by radiation, to flow down into the valleys, where it accumulates, thus frequently causing severe frost in the lowlands, while the hillsides remain uninjured. It is for this reason that frost does not so readily occur on windy nights, since the wind mixes the air to a more nearly uniform temperature throughout and causes that near the surface to be warmer than it otherwise would be.

#### BEST LOCATION FOR ORCHARDS OR GARDENS TO AVOID INJURY BY FROST.

Avoid, as far as possible, placing the tenderest plants or trees on low ground, especially the bottoms of narrow valleys with high hills on either side. In addition to the loss of their own heat by radiation, these valleys will become filled, on frosty nights, by the air which has been cooled by the rapid radiation on the slopes and has then flowed downward into the bottoms. Bottom lands opposite the mouths of cañons should be especially avoided for the same reason. The converse of this is true, that land on gentle slopes is less liable to injury than bottoms.

Slopes facing the south are preferable to northern slopes, because they receive the rays of the sun more directly and for a longer period. Slopes facing the west are to be preferred to those with an eastern exposure, since they receive heat longer in the afternoon, and being shaded for a time in the morning from the direct rays of the sun, the slow disappearance of frost seems to cause less injury. The fact that frosted plants are more seriously injured by being suddenly warmed than when the frost disappears more slowly seems well established. The reason for this is probably in some manner due to the fact that to melt frost a large amount of heat is necessary, which may be, in a measure, drawn from the plant on which the frost has formed.

Moist soil, or localities that can be easily flooded for the purposes of protection, are to be preferred to dry sections of otherwise similar location; for the evaporation of the moisture from the soil, on dry, cold nights, will tend to raise the dew-point of the air and thus diminish the probability of frost.

The irrigation of the hillsides about a valley in which protection is desired, and the growing thereon of plants or trees with a large amount of foliage, will, by the evaporation from the soil and verdure, tend to raise the dew-point of the surface air as it flows downward into the valley.

#### METHODS OF FROST PREVENTION.

From a study of the foregoing principles under which frost forms, it would seem that there would be the greatest probability of success in preventing frost or diminishing its severity, by working along the following lines, namely:



- (1) Diminishing the radiation of heat;
- (2) Raising the dew-point and thus making sensible the latent heat of condensation at a temperature above the danger point;
- (3) Adding heat to the air;
- (4) Draining the cold air away from the section which needs protection;
- (5) Mixing the air so as to prevent the cold air sinking to the surface.

One method of diminishing radiation which is of considerable value, especially in a level country, is the obscuring of the sky by means of the smoke of "*smudge*" fires. This method has been used with success in the level wheat fields of the Dakotas and Manitoba, and should be of about equal value in the broad interior valleys of California. It is not so successful in the narrow valleys of a hilly country, for while it retards the radiation of heat in the valley, the smoke bank is usually of low elevation, and radiation proceeds uninterruptedly from the hillsides, whence the cooled air flows down into the valley underneath the smoke and chills the plants. Damp straw, tar, turpentine, old hay, trimmings of trees—anything that will result in the greatest amount of smoke—will serve as fuel for these fires. Have the fuel in small piles thirty to fifty feet apart, on the ground in advance, and start the fires while the temperature is several degrees above the danger point. The number of fires lighted should depend upon the severity of the frost conditions, but should be so distributed as to make the densest blanket of smoke possible, over the orchard or garden. The piles of fuel remaining would be available for use at another time.

*It is believed that decidedly better results will be attained if damp fuel be used, or if the fire be sprayed with water*, for this will add vapor to the air, which, in condensing, will assist in checking radiation by obscuring the sky with fog or cloud, and at the same time the dew-point will be raised to the temperature of the air. This plan should result in absolutely preventing injury if the temperature be much above the danger point, for the condensation of the vapor will continue to distribute heat throughout the space occupied by the mist. In the case of smudge fires, the fire warms and expands the air near it, causing it to rise. This establishes an upward current of warm air from the fire, which conducts the heat of the fire upward and beyond the space needing protection, and cool air flows in from the sides to take its place. Thus the heat of the fire has but little effect in diminishing the intensity of the frost, almost the entire protection being gained by the blanket of smoke produced. By spraying the fire, on the other hand, a large portion of the heat of the fire is consumed in evaporating the water, which, rising from the fire, is quickly condensed as it comes in contact with the surrounding air. The heat of condensation thus becomes manifest in the lower air. The heat of the fire is thus, in a measure, trapped and distributed throughout the lower stratum of the air and greatly aids in protecting the plants. Every quart of water thus evaporated and again condensed in the surrounding air would be sufficient to raise the temperature 10° throughout a space eighty feet square and deep. The mist thus formed will soon disappear by the water being again evaporated, but this vapor, added to the air, will raise the dew-point so that condensation will again take place, on further cooling, at a higher temperature than would have been the case had the evaporation not taken place.

If small fires are used, which become partly extinguished when sprayed, it is believed that almost the entire condensation will take place within twenty-five feet of the surface, and but little of the heat or vapor will rise above one hundred feet in the two or three hours when protection is most needed. If this be true, fifty gallons of water, evaporated and condensed over one acre, will raise the temperature  $20^{\circ}$  over that space, and if re-evaporated, will raise the dew-point fully  $10^{\circ}$ . This would be sufficient to avoid injury under any of the conditions which have been recorded in California.

These results would not be attained if large fires and evaporating vats or pans were used, for in that case the heat of the fire would carry a large portion of the vapor above the region needing protection before condensation takes place, and the heat of condensation would thus be made manifest in an upper stratum of air, where it would be of no benefit.

The method of spraying fires brings into operation the first three principles of protection enunciated above, namely: retarding radiation, raising the dew-point, and adding heat to the air.

In places where *irrigation* can be used, it will be found of great value in protecting against frost. Let the water be turned on until the soil is thoroughly moistened. The evaporation of the water from the damp soil will tend to raise the dew-point. Since evaporation takes place near the surface, this method is especially valuable in protecting low plants and shrubs, but has also been found very valuable in protecting citrus groves from freezing weather. The irrigating should be done at as early an hour as possible, preferably on the day preceding the night when frost is anticipated, and the ground kept thoroughly wet until danger from frost is past.

A modified form of water protection, which is valuable in orchards, is to *spray* the trees with water. This plan is probably even more valuable in protecting from freezing citrus fruits and other plants which are not injured until the temperature has fallen several degrees below the freezing point; for, in these cases, the water will tend to freeze before the fruit is injured, and in freezing will make sensible a large amount of heat, thus preventing further cooling of the air. For this method to be successful the spraying must be continued until the temperature rises.

Of these several methods of prevention and protection it is believed that the best results will usually be obtained from the modified method of smudges, where the fires are used to vaporize water. The irrigating and spraying should be also used when possible, especially in protecting citrus fruits and trees from severe freezing weather.

All the preceding methods are subject to one serious defect when applied to the protection of narrow valleys between high hills or mountains. In such cases the cooling by radiation from the hillsides continues, and this denser air then flows into the valley and displaces the air which has been kept warm by the various means of protection. To make it more efficient it may therefore be necessary to extend the protection to the hillsides. It may be possible that this danger to the orchard or garden could, in many instances, be permanently removed or greatly diminished if windbreaks were so erected as to drain off this cold air from the locality. The breaks could be in the form of a high, close fence or levee. Perhaps a hedge would be of use. Preferably there should be a levee four or five feet high with the ditch on the side next the hill, into which, if possible, water should be turned. On the

top of the levee a fence should be placed. The evaporation of the water from the stream would tend to raise the dew-point of the air. The levee should be so placed along the slope near its base as to intercept the cold air and lead it beyond or around the orchard. It should have a continuous slope downward, the steeper the better, so that the cold air will not overflow it.

#### WHEN TO PROTECT.

The experience of the past two seasons has shown that forecasts of sudden and decided changes in temperature over a large territory are among the most accurate made by the Weather Bureau; consequently it is reasonable to expect that if suitable arrangements are made, warnings may be received of those otherwise unexpected cool waves which will result in frost. There are instances, however, when the general forecasts of the Weather Bureau cannot be expected to be sufficiently specific to provide for the different conditions that will prevail in various sections. The temperature frequently remains for several days near the critical point, and a change of a very few degrees or a local clearing or clouding of the sky will cause or prevent injury. Then the conditions in certain localities are such as to make them more susceptible to frost than the surrounding region. Professor Willis L. Moore, Chief of the Weather Bureau, states that while forecast official in Wisconsin he observed that a frost occurring immediately after a rain was not as injurious as when the ground and plants were dry. It is therefore necessary that the orchardist and gardener be able to judge at times for themselves when danger from frost is imminent. For this purpose they should be provided with a wet- and dry-bulb hygrometer, or psychrometer previously mentioned, by which the dew-point of the air can be determined.

If, in the afternoon, the dew-point is near the critical temperature, arrangements should be made for protecting if necessary. If, at a later hour, the dew-point is constant or lower, the sky clear or clearing and the air calm, it is reasonable to expect that the temperature will fall to the dew-point during the night. The efforts to protect should be based on this dew-point. If it merely approximates the danger point (and no warning of more severe temperatures has been given) but little protection will be necessary and action may be delayed until the temperature is but a few degrees above the danger point. However, if the dew-point be several degrees below that liable to cause injury, or if it be falling, or if a change to colder weather is anticipated, efforts to protect should be undertaken earlier. The ground should be irrigated during the day, smudge fires started when the temperature is several degrees above the critical point, and if the temperature continues to fall the fires should be sprayed until a dense fog or mist envelops the entire space. If the temperature should then fall to the danger point the trees and plants should be thoroughly sprayed, at the same time keeping up the smudge and vaporizing fires.

It would seem that these precautions should be sufficient to prevent injury, unless it be in the case of narrow valleys, where the cold air from the unprotected hillsides displaces that which has been kept warm; and should windbreaks be found successful in removing this danger, it is



believed that there are few, if any, localities where injury could not be avoided.

It is evident that, in attempting to protect one ranch, the owner will, in a measure, protect his neighbor; therefore, if some arrangements for coöperation among the individuals in the same locality were made the greatest protection could be provided at the minimum expense. By such a coöperation of all the residents of the valley, a system of air-breaks or air-drainage dykes (if found valuable) could be laid out and built in such a manner as to result in the greatest general good at the least cost. Arrangements could be made which would insure the distribution of a frost warning from the Weather Bureau throughout the entire district. Some person provided with a telephone could receive the warnings from the Bureau, and, in turn, telephone them to all others having such instruments. All so receiving them could display the frost signal, and thus the warning would be quite thoroughly distributed. Then by coöperation in protection the best results would be obtained.

It may be believed that the trouble and expense necessary to carry out these plans are greater than the benefits accruing from the protection, but this seems hardly true as a general rule. The supplies needed in the various methods are inexpensive. Any old rubbish is suitable as fuel for the fires. The apparatus used in spraying trees to avoid injury from insect pests, is suitable for spraying to avoid frost, and the only other material necessary is water. Really the trouble, inconvenience, and labor are practically the only drawbacks, while the gain may amount, at times, to many thousands of dollars.

#### HOW TO DETERMINE THE DEW-POINT.

To obtain the dew-point from the wet- and dry-bulb hygrometer, or psychrometer, moisten the muslin on the wet-bulb and then whirl or fan the instrument, when the temperature will fall. Continue the ventilation until the wet-bulb thermometer ceases to fall, when the two thermometers should be read.

Subtract the reading of the wet-bulb thermometer from that of the dry. Find this difference in the column at the left of the table. The dew-point will then be found at the intersection of the line opposite this difference and the column which is headed by the number nearest the air temperature (dry-bulb reading).

##### *First Example.*

Dry-bulb thermometer .....	55°
Wet-bulb thermometer .....	44°
Difference .....	11°
Dew-point, from table .....	30°

##### *Second Example.*

Dry-bulb thermometer .....	43°
Wet-bulb thermometer .....	38°
Difference .....	5°
Dew-point, from table, between 27° and 33°, about .....	30°

*Dew-Point Table.*

Difference of Reading of Dry and Wet Bulbs.	Temperature of Air—Fahrenheit.												
	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	
1	11 6	16	22	27	32	38	43	48	53	58	63	69	
2		12	18	24	30	35	41	46	52	57	62	67	
3		7	14	21	27	33	39	44	50	55	60	66	
4		1	10	17	24	30	36	42	48	53	59	64	
5			4	13	20	27	33	40	46	51	57	62	
6				7	16	24	30	37	43	49	55	61	
7				1	11	20	27	34	41	47	53	59	
8					5	16	24	31	39	45	51	57	
9						11	20	28	36	43	49	55	
10						4	16	25	33	40	47	53	
11							11	21	30	38	45	51	
12							4	17	27	35	42	49	
13								11	23	32	40	47	
14								5	18	28	37	45	
15									12	24	34	42	

*Table of Temperatures at which the Following Plants are Liable to Receive Injury from Frosts.*

Compiled from information received from horticulturists, orchardists, and gardeners throughout the entire Pacific Coast. The temperatures given are, as nearly as possible, those in contact with the plant itself.

Plants or Fruits.	In Bud.	In Blossom.	In Setting Fruit.	At Other Times.
Almonds	28°	30°	30°	28°
Apples	27	29	30	26
Apricots	30	31	32	30
Asparagus	29	29	29	26
Bananas	31	31	32	31
Barley		29		
Beans		31		31
Beets				25
Cantaloupes	32	32		30 to 31
Celery				28
Cucumbers	31	31	31	32
Cymlings, or squash	31	31	31	30
*Flowers	31	31	31	30
Grapes	31	31	30	28
Grape-fruit	30	31	31	28
Lemons	30	31	31	28
Mandarines and Tangerines	31	31	31	28
Oats	31			
Olives	30	31	31	18 ripe. 24 green.
Onions				29
†Oranges	30	31	31	26 ripe. 29 green.
Peaches	29	30	30	29
Pears	28	29	29	28
Peas	29	30	30	25
Plums	30	31	31	29
Potatoes, Irish	30	30	30	31
Potatoes, sweet, and Tomatoes	31	31	31	31
Prunes	30	31	31	29
Shrubs, roses or trees	26 to 30	28 to 32		0 to 26
Strawberries	28	28	28	30
Spinach				21
Turnips				26
Watermelons				28 to 31
Wheat		31	31	
Walnuts, English	30	31	31	28

\*Depends on variety. †Injured at 2° higher if continued 4 to 6 hours.

**PERCENTAGE OF MEAN CLOUDINESS AND OF MEAN SUNSHINE FOR CALIFORNIA  
WEATHER BUREAU STATIONS, AND AVERAGE NUMBER OF CLEAR DAYS.**

By JAMES A. BARWICK, Observer, Weather Bureau.

The data from which the following tables of the percentage of cloudiness and sunshine were taken are a series of monthly charts issued by the Chief of the Weather Bureau under date of June 20, 1891.

The introductory remarks made in reference to the charts fully explain the manner in which the data were prepared. A column of clear days for each station has been added by the Director of this Service, and the percentage of sunshine, being the complement of the cloudiness, although not given in the published charts above referred to, is easily obtained, as the percentage of sunshine is the difference between the percentage of cloudiness given and total cloudiness, which is 100 per cent. It is therefore self-evident that if a given place has 50 per cent of cloudiness there must then be 50 per cent of sunshine, etc. The introductory remarks made in placing the charts or maps of mean cloudiness before the public are as follows:

"The average percentage of cloudiness at the Weather Bureau stations in the United States is graphically shown by twelve charts. The data have been drawn from eighteen years of tri-daily eye observations—1871–1888—except at stations established subsequent to the first-named year. Total cloudiness is represented by 100 per cent, and an absence of clouds by zero (0).

"The value of these data, however, is in their application to climatological questions, and in the fact that they show indirectly the relative amount of sunshine, which is an important element in all investigations bearing upon the relation of climate to crop production.

"It has been assumed—a reasonable assumption, in which no large error can obtain—that the complement of the cloudiness will be the sunshine. Sunlight and cloudiness have both an important influence on health and many agricultural and commercial interests. The average quantity of cloud, mist, and rain to be found in any locality determines, to a great extent, the suitability of that locality as a habitation for persons requiring a maximum amount of sunlight and opportunity for exercise in the open air. \* \* \* \* \*

"Due proportion of sunlight, warmth, and moisture is necessary to produce healthy vegetation, and insure the ripening of all growing crops in certain months of the year. Cloudiness is also an important element, since the presence of clouds naturally results in screening the earth from excessive insolation; or in other words, in diminishing the heat received by vegetation from the direct rays of the sun. So, also, acting as a screen, it prevents in a measure the radiation of heat from the earth into space, and thus materially tends to modify and reduce the diurnal range of temperature, so that growing vegetation is not subject to as great cold as would otherwise obtain during the night; nor, on the other hand, does it receive the full amount of solar heat by day.

"The phenomena of cloudiness are, moreover, so interwoven with the more complex phenomena of diurnal variations of air pressure, temperature, vapor pressure, etc., and bear such intimate relationship to the distribution of rain, that the Weather Bureau Department feels warranted in reproducing a limited number of standard cloud maps of the United States for use by observers who are frequently called upon to furnish climatological statistics directly covered by the maps in question."

The following table gives the data drawn from above-described charts:



Table showing the Percentage of Mean Cloudiness and Sunshine, also the Average Number of Clear Days, for each month, and for the year.

Month.	Eureka.			San Francisco.			Los Angeles.			San Diego.			Red Bluff.			Sacramento.			Keeler.			Fresno.		
	Average Num- ber Clear Days.			Average Num- ber Clear Days.			Average Num- ber Clear Days.			Average Num- ber Clear Days.			Average Num- ber Clear Days.			Average Num- ber Clear Days.			Average Num- ber Clear Days.			Average Num- ber Clear Days.		
	Mean Sunshine.			Mean Sunshine.			Mean Sunshine.			Mean Sunshine.			Mean Sunshine.			Mean Sunshine.			Mean Sunshine.			Mean Sunshine.		
	Mean Cloudi- ness			Mean Cloudi- ness			Mean Cloudi- ness			Mean Cloudi- ness			Mean Cloudi- ness			Mean Cloudi- ness			Mean Cloudi- ness			Mean Cloudi- ness		
January	53	47	5	48	52	12	32	68	17	39	61	13	45	55	14	42	58	13	27	73	21	43	57	9
February	41	59	5	46	54	10	37	63	14	41	59	10	43	57	12	33	67	13	25	75	20	45	55	14
March	48	52	4	46	54	12	42	58	13	48	52	9	39	61	14	35	65	16	26	74	20	38	62	12
April	56	44	4	42	58	12	47	53	11	46	54	10	40	60	12	34	66	15	26	74	19	40	60	18
May	45	55	4	40	60	14	43	57	12	54	46	7	35	65	16	24	76	21	21	79	22	24	76	21
June	39	61	9	40	60	12	39	61	10	50	50	6	20	80	23	14	86	25	11	89	26	11	89	25
July	28	72	6	46	54	8	29	71	13	47	53	8	10	90	28	5	95	30	15	85	26	4	96	30
August	17	83	6	43	57	9	25	75	16	40	60	10	6	94	29	3	97	30	11	89	27	6	94	30
September	24	76	13	34	66	13	23	77	17	38	62	11	11	89	25	9	91	26	10	90	28	6	94	25
October	40	60	15	32	68	15	26	74	18	39	61	13	21	79	27	17	83	23	14	86	25	16	84	22
November	45	55	5	38	62	14	26	74	19	35	65	14	34	66	18	28	72	19	25	75	21	24	76	18
December	50	50	2	47	53	13	31	69	18	37	63	14	48	52	12	35	65	13	26	74	19	47	53	8
Annual	40	60	78	42	58	144	33	67	178	43	57	125	29	71	230	23	77	244	20	80	274	25	75	232

The above table shows the advantages of California as a resort for invalids and weakly constituted people; in fact, for all who require plenty of sunshine and warmth during the winter, spring, and fall seasons of the year, so that plenty of outdoor exercise can be indulged in.

*Average Percentage of Mean Cloudiness and of Sunshine by Seasons, and the Average Number of Clear Days.*

Deduced from the monthly cloud charts issued by the United States Weather Bureau, Washington, D. C.

Stations	Winter.			Spring.			Summer.			Autumn.		
	Mean Cloudiness	Mean Sunshine	Average Number Clear Days	Mean Cloudiness	Mean Sunshine	Average Number Clear Days	Mean Cloudiness	Mean Sunshine	Average Number Clear Days	Mean Cloudiness	Mean Sunshine	Average Number Clear Days
	Per ct.	Per ct.		Per ct.	Per ct.		Per ct.	Per ct.		Per ct.	Per ct.	
Eureka .....	48	52	12	50	50	12	28	72	21	36	64	33
San Francisco ..	47	53	35	43	57	38	43	57	29	35	65	42
Los Angeles ..	34	66	49	44	56	36	31	69	39	25	75	54
San Diego .....	39	61	37	49	51	26	46	54	24	37	63	38
Red Bluff .....	45	55	38	38	62	42	12	88	80	22	78	70
Sacramento ..	37	63	39	31	69	52	7	93	85	18	82	68
Keeler .....	26	74	60	24	76	61	12	88	79	16	84	74
Fresno .....	45	55	31	34	66	51	7	93	85	15	85	65

It will be noticed by the above table that, during the winter season, Los Angeles and the interior of California south of the Tehachapi range of mountains have a greater percentage of sunshine than does that portion of California lying north of the above-named mountain range, except Keeler, which has the greatest percentage of sunshine at all times, except the summer season, when Sacramento and Fresno have a greater amount, while Red Bluff has the same as Keeler. The latter station (Keeler) has a greater annual percentage (80) of sunshine than any other portion of the State, as well as more clear days. In the Riverside region and surrounding sections of Southern California, the percentage of sunshine is very high, equally as much as is reported from Sacramento. As no record of Riverside cloudiness has been regularly and continuously tabulated for a number of years past, the exact percentage of mean cloudiness and sunshine cannot be given, but enough is known of that region to be safe in claiming a higher sunshine percentage than for any other portion of California south of the Tehachapi Mountains, except the desert region between Salton and Yuma, and Barstow and Needles, where it may average somewhat higher, and probably equals or exceeds the record of Keeler, which shows an average of 80 per cent of sunshine annually, and an average annual number of 274 clear days. Riverside and vicinity, during the winter season, has a larger percentage of sunshine than does the Sacramento or San Joaquin Valley, and equals those valleys in the spring, summer, and autumn percentages.

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REPORTS

FROM

DISTRICT AGRICULTURAL ASSOCIATIONS.

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# FINANCIAL STATEMENT

## OF THE

### SECOND DISTRICT AGRICULTURAL ASSOCIATION,

Composed of the County of San Joaquin,

FROM

DECEMBER 10, 1894, TO DECEMBER 10, 1895.

[Presented to Board of Directors at Annual Meeting, December 10, 1895.]

This statement shows:

First—Summary of receipts and disbursements for 1895.

Second—Receipts and disbursements of the Pavilion Department, when conducted as a separate institution from the Racing Department, for the year 1895; and showing loss or gain.

Third—Receipts and disbursements of the Racing Department, when conducted as a separate institution from the Pavilion Department, for the year 1895; and showing loss or gain.

Fourth—Statement of the receipts and disbursements of both the Racing and Pavilion Departments, when conducted as one institution, for the year 1895; and showing loss or gain.

Fifth—Statement of resources and liabilities December 10, 1895.

Submitted December 10, 1895.

C. E. DOAN,  
Secretary.

#### SUMMARY SHOWING RECEIPTS AND DISBURSEMENTS BY THE SAN JOAQUIN VALLEY AGRICULTURAL ASSOCIATION, FROM DECEMBER 10, 1894, TO DECEMBER 10, 1895.

##### RECEIPTS.

Cash on hand, as per last report .....	\$121 31
Received from rental of Pavilion .....	558 50
Received from sweepstake entries .....	16 00
Received from Park receipts .....	2,449 05
Received from Pavilion receipts .....	2,525 25
Received from Pavilion privileges .....	117 00
Received from Park privileges .....	2,652 40
Received from entrance fees to races .....	5,822 05
	<u>\$14,261 56</u>

##### DISBURSEMENTS.

Paid interest on bills payable .....	\$14 00
Paid insurance .....	170 96
Paid for permanent Pavilion improvements .....	447 15
Paid Park payroll .....	1,201 05
Paid Pavilion payroll .....	799 22
Paid for entertainments and music .....	1,134 75
Paid premiums of 1894 .....	6 50

Paid premiums of 1895 .....	\$117 75	
Paid Park expenses .....	424 28	
Paid Pavilion expenses .....	351 86	
Paid Pavilion repairs .....	111 95	
Paid Park repairs .....	265 00	
Paid purses and stakes of 1894 .....	263 32	
Paid purses and stakes of 1895 .....	8,762 00	
Balance, cash on hand .....	321 77	
		<u>\$14,261 56</u>

STATEMENT OF THE AFFAIRS OF THE SAN JOAQUIN VALLEY AGRICULTURAL ASSOCIATION FOR THE YEAR 1895, RELATING TO THE PAVILION. (Dated December 10, 1895.)

RECEIPTS.		
Pavilion rental .....	\$558 50	
Sweepstakes .....	16 00	
Pavilion receipts (gate admission and exhibition tickets) .....	2,525 25	
Pavilion privileges .....	117 00	
		<u>\$3,216 75</u>

DISBURSEMENTS.		
Insurance .....	\$170 96	
Interest .....	14 00	
Permanent improvements .....	447 15	
Payroll .....	799 22	
Entertainments and music .....	1,134 75	
Premiums of 1894 .....	6 50	
Premiums of 1895 .....	117 75	
Pavilion expenses .....	351 86	
Pavilion repairs .....	111 95	
		<u>\$3,154 14</u>
Excess of Pavilion receipts over disbursements .....		<u>\$62 61</u>

LIST OF UNPAID PAVILION BILLS AND ACCOUNTS.

Premiums .....	\$500 00
Insurance .....	200 00
Interest due Stockton Savings and Loan Society, one year on \$3,000 .....	210 00
Interest due Hobart Estate, one year on \$6,000, at 8 per cent .....	480 00
A. Alberti .....	5 00
Blake, Carpenter & Co. ....	10 00
Goodell, Forrest & Hewitt .....	3 00
L. Goodfriend .....	4 40
Gianelli Bros. ....	3 75
Grangers Union .....	28 83
W. L. Hudson .....	6 00
J. L. Phelps & Co. ....	51 90
W. R. Johnson .....	9 40
Jackson & Earle .....	39 37
Lauxen & Catts .....	5 00
Overland Monthly .....	20 00
Robert Powell .....	216 50
Pahl & Harry .....	255 72
Record office .....	25 50
Stockton Gas Co. ....	535 80
Stockton Water Co. ....	50 00
Stockton Laundry .....	5 00
Stockton Lumber Co. ....	20 00
Stockton Combined Harvester and Agricultural Works .....	16 82
Tretheway, Devries & Neumiller .....	179 72
Union Planing Mill .....	3 58
A. L. Wulff & Co. ....	97 00
George Rushforth .....	35 00
C. H. McGhan .....	50 00
One half of salary of Secretary, chargeable to Pavilion .....	198 61
Total amount of unpaid Pavilion bills and accounts .....	<u>\$3,265 98</u>



## STATEMENT SHOWING LOSS OR GAIN ON PAVILION FROM DECEMBER 10, 1894, TO DECEMBER 10, 1895.

Disbursements, including amount paid for permanent improvements .....	\$3,154 14	
Unpaid bills and accounts .....	3,265 98	
Total expense of running Pavilion, including amount paid out and to be paid for permanent improvements .....		\$6,420 12
Paid for permanent improvements .....	\$447 15	
Unpaid bills for permanent improvements .....	820 18	
Cost of permanent improvements for 1895 .....		1,267 33
Expense of running Pavilion for 1895 .....		\$5,152 79
Which includes bills of 1894 to amount of .....		403 67
Leaving as the amount expended for running Pavilion in 1895, excluding permanent improvements and bills contracted in 1894 and paid in 1895..		\$4,749 12
Receipts for year .....	\$3,216 75	
Due from Colonel Nunan .....	150 00	
Due from Company A .....	50 00	
		3,416 75
Leaving net loss on Pavilion for 1895 .....		\$1,332 37

## STATEMENT SHOWING INDEBTEDNESS OF ASSOCIATION DECEMBER 10, 1894, DECEMBER 10, 1895, AND INCREASE OF LIABILITIES FOR YEAR 1895.

Due Hobart Estate (note) .....	\$6,000 00	
Due Stockton Savings and Loan Society .....	3,000 00	
Unpaid Park bills .....	1,125 06	
Unpaid Pavilion bills .....	3,265 98	
Total .....		\$13,391 04
Less cash on hand .....		321 77
Total liabilities December 10, 1895 .....		\$13,069 27
Total liabilities December 10, 1894 .....		10,008 67
Increase of liabilities for year 1895 .....		\$3,060 60
But which may be reduced if the following accounts due the Association are paid:		
Due from unpaid entrance fees, estimated good .....	\$1,000 00	
Due from Colonel Nunan .....	150 00	
Due from Company A .....	50 00	
		1,200 00
Leaving net increase of liabilities for year 1895, after above accounts have been collected .....		\$1,860 60

STATEMENT OF THE CONDITION OF THE AFFAIRS OF THE SAN JOAQUIN VALLEY AGRICULTURAL ASSOCIATION, FOR THE YEAR 1895, RELATING TO THE RACING DEPARTMENT OR PARK. (Dated December 10, 1895.)

RECEIPTS.		
Park receipts.....	\$2,449 05	
Park privileges.....	2,652 40	
Entrance fees to races.....	5,822 05	
		<u>\$10,923 50</u>
DISBURSEMENTS.		
Park payroll.....	\$1,201 05	
Park expenses.....	424 28	
Park repairs.....	135 00	
Paid purses and stakes of 1895.....	8,762 00	
Paid purses and stakes of 1894.....	263 32	
		<u>\$10,785 65</u>
Excess of Park receipts over disbursements.....		<u>\$137 85</u>
Suspensions on account of unpaid entrance fees for the year 1895.....		<u>\$1,650 00</u>
Amount collected after race meeting.....		<u>150 00</u>
Unpaid entrance fees for 1895.....		<u>\$1,500 00</u>
Unpaid entrance fees for 1894.....		<u>1,000 00</u>
Total unpaid entrance fees for 1894 and 1895.....		<u>\$2,500 00</u>
Estimated that will be collected of unpaid entrance fees now due Association from 1894 and 1895.....		<u>\$1,000 00</u>

LIST OF UNPAID BILLS CHARGEABLE TO PARK ACCOUNT.

Austin Bros.....	\$14 52
Breeder and Sportsman.....	60 00
P. A. Buell & Co.....	19 82
W. A. French.....	50 00
J. L. Phelps & Co.....	50 00
A. P. Morrill.....	163 25
Overland Monthly.....	20 00
R. W. Russell.....	100 00
Record Office.....	22 50
C. Rodder.....	10 35
Insurance.....	80 00
Simpson & Gray.....	15 10
Tretheway, DeVries & Neumiller.....	44 52
National Trotting Association (dues).....	225 00
One half salary of Secretary, chargeable to Park.....	250 00
Total unpaid Park liabilities.....	<u>\$1,125 06</u>

STATEMENT SHOWING LOSS OR GAIN OF RACING DEPARTMENT, FROM DECEMBER 10, 1894, TO DECEMBER 10, 1895.

Total Park receipts.....	<u>\$10,923 50</u>
Disbursements.....	<u>\$10,785 65</u>
Unpaid bills and accounts.....	<u>1,125 06</u>
Total amount of disbursements and unpaid accounts.....	<u>\$11,910 71</u>
But which includes bills contracted in 1894, to the amount of.....	<u>473 00</u>
Leaving net disbursements and unpaid accounts for 1895.....	<u>\$11,437 71</u>
Total receipts at this date.....	<u>10,923 50</u>
Leaving a loss at this time, after paying unpaid bills.....	<u>\$514 21</u>
Against which the Association has due it in unpaid entrance fees, estimated good.....	<u>\$1,000 00</u>
Deducting from which the above net loss at this date.....	<u>514 21</u>
Will leave the Association a net profit from the Racing Department, for the year 1895, of.....	<u>\$485 79</u>

STATEMENT SHOWING LOSS OR GAIN OF BOTH THE RACING DEPARTMENT  
AND THE AGRICULTURAL DEPARTMENT, WHEN CONDUCTED AS ONE  
INSTITUTION, FROM DECEMBER 10, 1894, TO DECEMBER 10, 1895.

RECEIPTS.		
Total receipts from Park .....	\$10,923 50	
Total receipts from Pavilion .....	3,216 75	
Cash on hand December 10, 1894 .....	121 31	
Total receipts for year .....		\$14,261 56
DISBURSEMENTS.		
Paid out for Park disbursements .....	\$10,785 65	
Pavilion disbursements .....	3,154 14	
Unpaid Park bills .....	1,125 06	
Unpaid Pavilion bills .....	3,265 98	
Total disbursements and unpaid bills .....	\$18,330 83	
From this deduct total receipts .....	14,261 56	
Which leaves a deficiency of .....		\$4,069 27
Deduct from this the amount paid and to be paid for permanent improvements .....	\$1,267 33	
And 1894 bills paid in 1895 .....	876 67	
		2,144 00
Leaving net loss for 1895 .....		\$1,925 27
Against which the Association has due it the following accounts:		
From unpaid entrance fees, estimated good .....	\$1,000 00	
From Colonel Nunan .....	150 00	
From Company A .....	50 00	
		1,200 00
Leaving the net loss for 1895, after above accounts are collected .....		\$725 27

RESOURCES AND LIABILITIES DECEMBER 10, 1895.

RESOURCES.		
Park property .....	\$5,000 00	
Personal property at Park .....	500 00	
Pavilion (cost) .....	47,000 00	
Estimated good unpaid entrance fees .....	1,009 00	
Due from Colonel Nunan .....	150 00	
Due from Company A (rent) .....	50 00	
Cash on hand .....	321 77	
		\$54,021 77
LIABILITIES.		
Due Stockton Savings and Loan Society (note) .....	\$3,000 00	
Due Hobart Estate (note) .....	6,000 00	
Unpaid Park bills .....	1,125 06	
Unpaid Pavilion bills .....	3,265 98	
		13,391 04
Excess of resources over liabilities .....		\$40,630 73
The old Society has property estimated to be worth \$95,000.		



## SIXTH DISTRICT AGRICULTURAL ASSOCIATION.

(COMPOSED OF THE COUNTY OF LOS ANGELES.)

LOS ANGELES, December 1, 1895.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Sixth District Agricultural Association submit this, their report of said association, for the year ending this date.

M. F. BROWN,  
Secretary.

J. C. NEWTON,  
President.

## RECEIPTS AND EXPENDITURES.

## RECEIPTS.

December 1, 1894, balance cash on hand.....	\$751 40	
M. Salisbury, hay.....	102 87	
E. Ryan, rent of track.....	300 00	
Old lumber sold.....	20 00	
State appropriation.....	3,000 00	
Sundries.....	4 25	
		<u>\$4,178 52</u>
March 4, 1895, balance cash on hand.....	\$217 06	
Sale of boxes in grand stand.....	202 00	
Sale of privileges.....	6,756 00	
Sale of exhibitors' tickets.....	229 00	
Collections back entrance money.....	216 00	
Gates, grand stand, and score cards.....	7,797 36	
Rent of race track.....	2,100 00	
Entrance moneys.....	2,475 00	
		<u>\$19,992 42</u>

## EXPENDITURES.

Expenses.....	\$303 66	
Hardware.....	49 09	
Advertising.....	50 94	
Dues Trotting Association.....	77 00	
Taxes.....	96 15	
Water.....	21 40	
Secretary and Directors.....	198 30	
Office rent.....	24 00	
Insurance.....	66 00	
Hay and straw.....	104 37	
Attorney fees.....	50 00	
Street grading and paving.....	2,900 00	
Diplomas.....	20 55	
		<u>\$3,961 46</u>
March 4, 1895, cash balance on hand.....	217 06	
		<u>\$4,178 52</u>
Office rent.....	\$132 00	
Attorney fees.....	300 00	
Insurance.....	202 40	
Water.....	106 20	
Band.....	200 00	
Lumber.....	238 61	

Printing.....	\$159 50	
Judges at Fiesta races.....	90 00	
Labor during fair.....	1,094 60	
Sundry expenses.....	680 42	
Secretary's salary.....	252 50	
Premiums.....	1,509 00	
Advertising.....	818 61	
Purses.....	8,464 98	
County taxes.....	83 83	
Dues Trotting Association.....	100 00	
		<hr/>
		\$14,432 65
December 1, 1895, cash on hand.....		5,559 77
		<hr/>
		\$19,992 42

# EIGHTEENTH DISTRICT AGRICULTURAL ASSOCIATION

(COMPOSED OF THE COUNTIES OF INYO, ALPINE, AND MONO.)

INDEPENDENCE, January 1, 1896.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Eighteenth District Agricultural Association submit this, their report of said association, for the year ending this date.

BEN H. YANDELL,  
Secretary.

E. ROBINSON,  
President.

## RECEIPTS AND EXPENDITURES.

### RECEIPTS.

Special subscriptions.....	\$113 00	
Entertainments.....	108 00	
Door receipts at Pavilion.....	41 50	
Balance from Eighteenth District.....	90 00	
		<u>\$352 50</u>

### EXPENDITURES.

Special premiums.....	\$136 00	
Rent of Pavilion.....	50 00	
Printing premium lists.....	30 00	
Diplomas.....	32 50	
Music.....	15 00	
Salaries of employes.....	64 00	
Fitting up Pavilion.....	15 00	
Miscellaneous expenses.....	10 00	
		<u>\$352 50</u>



## NINETEENTH DISTRICT AGRICULTURAL ASSOCIATION.

(COMPOSED OF THE EASTERN PART OF THE COUNTY OF SANTA BARBARA.)

---

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Nineteenth District Agricultural Association submit this report for the year 1895.

No fair was held this year, on account of the loss of our Pavilion by fire, the general depression in all classes of business, and the lack of State appropriation.

For our district we have to report that last winter's rainfall, although not as abundant as we desired, was sufficient to give us fair returns from all crops and grazing for stock, cattle, and sheep.

The crop of hay and small grains was nearly up to the average yield, but prices ruling very low, there was very small margin of profit for the producers.

The bean crop falls a little short of an average yield, but the quality is good. The same can be said of English-walnuts.

Fresh fruits have been abundant, supplying the home market; and the estimate for dried fruits is 100 tons, principally apricots, peaches, and prunes.

Citrus fruits are coming to the front in our district. Fully 8,000 boxes of oranges have been shipped away from Santa Barbara. Many young lemon orchards coming into bearing, shipments of lemons will reach 15,000 boxes for the year.

The corn crop is good, but the acreage grows smaller every year, the land being planted in orchard.

The crop of pampas plumes is 1,500,000 plumes shipped to Europe. Prices were lower, averaging one cent each. Many plants are being destroyed, the land being more valuable for other crops.

The olive crop will be large this year. The El Montecito Manufacturing Company are making preparations to grind all they can purchase. Their oil being absolutely pure olive oil, it finds a ready sale. Ellwood Cooper's oil works, at Ellwood, will be run up to their limit.

At Summerland, five miles distant from Santa Barbara, there are now forty producing wells along the beach and on the bench above. None of these pierce the lower stratum of oil-bearing sand, the deepest being only 200 feet below the surface. The largest yield is obtained from a well only 65 feet deep, which has a constant flow of 70 barrels a day. The total average output of all the wells is now 2,400 barrels a week. The crude oil is used for fuel under steam boilers by different parties in the vicinity. The first deep well is now being bored, the owner intending to go down 2,000 feet, if necessary. The various strata are expected to be pierced in this order: Surface adobe, yellow clay, blue clay shale, the first layer of bituminous sand, then an unknown depth of shaly rock, and finally the second or main stratum of oil-bearing sand.

The supply of bituminous rock seems to be inexhaustible. The Alcatraz Asphalt Company are mining large quantities at their different mines, and their refining works at Carpinteria give employment to a large number of men.

The city's experiment of laying over a mile of street with raw material from the Carpinteria Mine, simply spreading it thick enough to leave a uniform thickness of two inches after being rolled with a seven-ton roller, makes a smooth and durable roadbed, over which heavy loads have been hauled all summer without injury to the roadbed.

Hoping that we shall be able to hold our annual fair in 1896, we respectfully submit the above report.

HENRY B. BARSTOW,  
Secretary.

CHAS. P. LOW,  
President.

## THIRTY-FIRST DISTRICT AGRICULTURAL ASSOCIATION.

(COMPOSED OF THE COUNTY OF VENTURA.)

HUENEME, January 1, 1896.

*To the honorable the State Board of Agriculture:*

GENTLEMEN: The Directors of the Thirty-first District Agricultural Association submit this, their report of said association, for the year ending this date.

THOS. H. MERRY,  
Secretary.

JOHN G. HILL,  
President.

## RECEIPTS AND EXPENDITURES.

## RECEIPTS.

From back entries of 1894 .....	\$60 60
From life members .....	50 00
From advertisements in premium list .....	78 00
From divers privileges sold .....	568 00
From gate receipts and grand stand .....	459 25
From entries to races .....	2,025 00
From subscriptions to Fair Fund .....	887 50
From entries collected by other Associations .....	65 00
From restaurant rent .....	25 00
Bills receivable, entries good .....	345 00
	<u>\$4,563 35</u>

## EXPENDITURES.

Paid fees American Trotting Association .....	\$25 00
Paid advertising .....	87 20
Paid printing and supplies .....	68 27
Paid silver premiums for baby show .....	31 50
Paid employés .....	175 25
Paid postage, express, telephone, telegraph, and other incidental expenses .....	31 00
Paid Secretary for report to State Board made in 1894 .....	50 00
Paid printing premium lists .....	40 00
Paid (refunded) to Morgan Bros. ....	25 00
Paid premiums on exhibits .....	253 00
Paid salary of Secretary, one year .....	200 00
Paid purses in races .....	3,400 00
Paid J. E. Pleasants, Starting Judge .....	35 00
Paid Chambers & Co., freight .....	3 75
Paid rent of Fair grounds .....	600 00
Paid H. Delaney, starting running races .....	20 00
	<u>\$5,044 97</u>
Deficit of receipts over expenditures .....	\$481 62





# INDEX.

	PAGE.
Act governing the Management of the State Agricultural Society.....	5-6
Acts governing District Agricultural Associations.....	6-9
Agricultural Districts, and counties forming same.....	10
Annual Address. By J. W. Mitchell, of Los Angeles.....	98-103
Annual Meeting of Board.....	43-45
Annual Report of Secretary.....	11-31
Beet Sugar Industry.....	125-152
Constitution of the California State Agricultural Society.....	3-4
Financial Statement.....	32-42
Meteorological Review. Compiled by James A. Barwick.....	169-204
Premiums Awarded—	
First Department.....	46-58
Second Department.....	58-59
Third Department.....	60-62
Fourth Department.....	62-64
Fifth Department.....	65-66
Sixth Department.....	67
Seventh Department.....	67-69
Eighth Department.....	69-71
Department gold medals.....	71-72
Special medals.....	72
Report of Milk Test. By A. V. Stubenrauch, Milk-Tester.....	95-97
Southern California Citrus Fair. Official list of awards.....	121-124
Speed Programme.....	73-94
Statistical Tables of Production of Grain, Wine, etc.....	163-168
The Dairy. By P. J. Shields, of Sacramento.....	118-120
Tobacco. By Edgar Briggs, of San Francisco.....	113-117
Values of Farm Products, Wages Paid for Farm and Skilled Labor, and Land	
Values, in the various counties of California.....	103-112
Wheat, Flour, and Barley Review. Compiled by T. C. Friedlander.....	153-162
<i>Reports from District Agricultural Associations.</i>	
Second District—San Joaquin.....	207-211
Sixth District—Los Angeles.....	212-213
Eighteenth District—Inyo, Alpine, and Mono.....	214
Nineteenth District—A part of Santa Barbara.....	215-116
Thirty-first District—Ventura.....	217





# BIENNIAL REPORT

OF THE

## Board of Railroad Commissioners

OF THE

STATE OF CALIFORNIA,

FOR THE YEARS 1895 AND 1896.



SACRAMENTO :

A. J. JOHNSTON, : : : : SUPERINTENDENT STATE PRINTING.  
1896.



# MEMBERS STATE BOARD OF RAILROAD COMMISSIONERS SINCE ORGANIZATION OF BOARD.

## FROM 1880 TO 1883.

J. S. CONE .....	First District.
C. J. BEERSTECHEER .....	Second District.
GEORGE STONEMAN .....	Third District.

## FROM 1883 TO 1887.

G. J. CARPENTER .....	First District.
WILLIAM P. HUMPHREYS .....	Second District.
W. W. FOOTE .....	Third District.

## FROM 1887 TO 1891.

A. ABBOTT .....	First District.
P. J. WHITE .....	Second District.
JAMES W. REA .....	Third District.

## FROM 1891 TO 1895.

WILLIAM BECKMAN .....	First District.
J. M. LITCHFIELD .....	Second District.
JAMES W. REA .....	Third District.

# MEMBERS OF THE PRESENT BOARD.

H. M. LA RUE .....	First District.....	Sacramento.
JAMES I. STANTON .....	Second District.....	San Francisco.
WILLIAM R. CLARK .....	Third District.....	Stockton.

## OFFICERS OF THE BOARD.

H. M. LA RUE, <i>President</i> .....	Sacramento.
SAMUEL NEWMAN, <i>Secretary</i> .....	San Francisco.
JAMES V. KELLY, <i>Bailiff</i> .....	Santa Clara.
STEPHEN POTTER, <i>Stenographer</i> .....	San Francisco.

*Office of the Board of Railroad Commissioners:*

ROOMS 27 AND 28, CHRONICLE BUILDING, - - - SAN FRANCISCO.





# CONTENTS.

	PAGE.
MEMBERS OF STATE BOARD OF RAILROAD COMMISSIONERS SINCE ORGANIZATION.....	3
REPORT OF BOARD OF RAILROAD COMMISSIONERS.....	7-70
Resolution from the Legislature on Transportation of Perishable Products.....	8
Classification on Petroleum and its Products.....	8-13
Power of Commission over Steamers.....	13-14
Street and Electric Railways.....	14-15
Atlantic and Pacific Railroad.....	15-16
Uniform System of Accounts.....	16
Railroad Commissions.....	16
Grain Schedule.....	16
Resolution of Commissioner La Rue reducing grain rates.....	16-17
Statement of Commissioner Stanton in reference to same.....	17-18
Investigation.....	18
Communication of Commissioner Stanton.....	19-22
Substitute to resolution.....	22-23
Communication of Commissioner Clark.....	23-24
Proceedings of the Board September 12, 1895.....	28-43
Proceedings of the Board September 13, 1895.....	43-52
Adoption of Schedule of Rates.....	52
Protest of Southern Pacific Company.....	52-53
Suit of Southern Pacific Company vs. Railroad Commissioners.....	53-54
Restraining Order against Railroad Commissioners.....	55-56
Legislation Governing Powers of Board.....	56-60
Reduction of Rates.....	60
Schedule of Grain Rates of San Francisco & San Joaquin Valley Railway Company.....	61
Schedule of Grain Rates of Southern Pacific Company.....	62-65
Street Railroads.....	67-70
REPORT OF COMMISSIONERS TO LEGISLATURE ON TRANSPORTATION OF PERISHABLE PRODUCTS.....	71-79
POWERS AND DUTIES OF RAILROAD COMMISSIONERS.....	83-88
REPORTS OF RAILROAD COMPANIES FOR FISCAL YEAR ENDING JUNE 30, 1896.....	89-336
Southern Pacific Company.....	89-110
Central Pacific Railroad Company.....	110-119
Southern Pacific Railroad Company.....	120-130
California Pacific Railroad Company.....	131-136
Northern Railway Company.....	136-142
South Pacific Coast Railway Company.....	143-148
Northern California Railway Company.....	148-151
Southern California Railway Company.....	152-167
Atlantic & Pacific Railroad Company.....	168-175
San Francisco & North Pacific Railway Company.....	176-186
Carson & Colorado Railway Company.....	187-193
North Pacific Coast Railroad Company.....	194-203
Pacific Coast Railway Company.....	203-213
Nevada-California-Oregon Railway.....	213-221

	PAGE.
REPORTS OF RAILROAD COMPANIES FOR FISCAL YEAR ENDING JUNE 30, 1896— <i>Continued</i> —	
Eel River & Eureka Railroad Company .....	221-229
Nevada County Narrow Gauge Railroad Company .....	229-236
National City & Otay Railway Company .....	237-239
Los Angeles & Redondo Railway Company .....	240-247
San Diego, Cuyamaca & Eastern Railway Company .....	247-257
San Diego, Pacific Beach & La Jolla Railway Company .....	257-263
Los Angeles Terminal Railway Company .....	264-273
Visalia & Tulare Railroad Company .....	273-277
Yreka Railroad Company .....	278-283
Visalia Railroad Company .....	284-288
San Francisco & San Joaquin Valley Railway Company .....	289-291
Crescent City & Smith River Railroad .....	292-296
Santa Ana & Newport Railway Company .....	296-303
Alameda & San Joaquin Railroad Company .....	303-306
Arcata & Mad River Railroad Company .....	307-313
Colusa & Lake Railroad Company .....	314-319
California Railway .....	319-324
Pajaro Valley Railroad Company .....	325-328
Chino Valley Railroad .....	329-330
The Pacific Lumber Company .....	331-333
Gualala River Railway Company .....	333-335
Iron Mountain Railway Company .....	335-336
REPORT OF SOUTHERN PACIFIC COMPANY FOR FISCAL YEAR ENDING JUNE 30, 1895 .....	337-353
STATISTICAL TABLES FROM RAILROAD COMPANY REPORTS .....	354-363
LIST OF NEW RAILROAD CORPORATIONS FROM OCTOBER 19, 1894, TO SEPTEMBER 26, 1896 .....	364-369
COMMUNICATIONS, COMPLAINTS, AND CORRESPONDENCE .....	370-376
DECISION OF JUDGE McKENNA IN CASE OF SOUTHERN PACIFIC COMPANY vs. RAILROAD COMMISSIONERS .....	377-415

# REPORT.

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*To his Excellency JAMES H. BUDD, Governor of the State of California:*

Pursuant to the provisions of the Constitution of this State, which provides that "said Commission shall report to the Governor annually their proceedings and such other facts as may be deemed important," we, the Board of Railroad Commissioners of the State of California, beg leave to report for the year ending December 31, 1895, as follows:

The first meeting of this Commission, as at present constituted, was held on the 7th day of January, 1895, and permanent organization effected on the 14th day of January, 1895, by the election of H. M. La Rue, President, and Samuel Newman, Secretary.

The regular meetings of the Commission have been held bi-monthly, as well as special meetings when urgent business was presented.

The members of the Board have made personal inspection of various railways of the State, in order to familiarize themselves with the topography of the country through which the carriers operate, as well as the manner of conduct and the facilities afforded to their patrons.

The powers devolved upon this Board, by the fundamental law of the State, are of the most comprehensive character, and are defined as follows:

Said Commissioners shall have the power, and it shall be their duty, to establish rates of charges for the transportation of passengers and freight by railroad or other transportation companies; and publish the same from time to time, with such changes as they may make; to examine the books, records, and papers of all railroad and other transportation companies, and for this purpose they shall have power to issue subpoenas and all other necessary process; to hear and determine complaints against railroad and other transportation companies, to send for persons and papers, to administer oaths, take testimony, and punish for contempt of their orders and processes, in the same manner and to the same extent as courts of record, and enforce their decisions and correct abuses through the medium of the courts.

The degree of labor incident to a faithful performance of these duties can be readily understood when it is stated that there are at present thirty-eight railroad corporations engaged in the transportation of freight and passengers within this State, exclusive of street railways and companies conducting such business by water. The affairs of these corporations are of the most complex nature, and to act justly toward them and the people of the State requires the exercise of the utmost care, consideration, and judgment. We have at all times given full and exhaustive hearings to all persons feeling themselves aggrieved without the necessity of resorting to unnecessary legal formulas, and it is not our intention in the present report to set out in detail the many minor matters which in the course of our proceedings have been acted upon, but simply to say that such affairs have demanded and received our attention. Our idea is to specify and call your attention to subjects of the utmost importance, and report to you our actions thereon, making such suggestions as from our experience we deem meet and proper.



## RESOLUTION FROM THE LEGISLATURE.

During the month of February, 1895, the Legislature of California forwarded to this Commission the following resolution:

WHEREAS, The fruit, vegetable, and viticultural industry of the State of California is of such great magnitude as to constitute one of the principal sources of wealth to the people of the State of California; and

WHEREAS, It is well known that the cost of transporting such products from the points of shipment in this State to the markets of Eastern and other States is generally in excess of the actual profitable cost of transportation; and

WHEREAS, It is commonly understood that a very large proportion of the charges incident to transportation are occasioned by the use of patented devices; therefore, be it

*Resolved*, That the Board of Railroad Commissioners of the State of California be requested to report to this Assembly, within ten days from this date, a detailed statement of the rates charged for the transportation of the products of the State of California to the Eastern and other markets; and that they advise this Assembly as to what devices are used, and the additional cost of transportation occasioned by the use of such devices for the preservation of fruit; and to report whether or not it is not possible to provide for the use of equally satisfactory devices or plans at greatly reduced rates; and that they give the Assembly such other information as may enable it to initiate such legislation as will relieve the industries of this State in the greatest degree possible; and that the Chief Clerk of this House be instructed to transmit a copy of this resolution to the Board of Railroad Commissioners forthwith.

## REPORT OF COMMISSION TO THE LEGISLATURE.

In compliance with this direction, an investigation into the subject-matter of the resolution was made, and a report of our proceedings was transmitted to the Legislature, but the time limited for reporting thereon was so brief that the investigation made was necessarily of a most cursory character. (For report to the Legislature, see page 71.)

We have since devoted considerable time to the study of this question, and believe that the excessive burden imposed upon the fruit-growers of this State, for Eastern shipments, is to a great extent occasioned by the private ownership of the refrigerator cars used for these shipments. This system we conceive to be pernicious; no good reasons exist why railroad companies engaged in the transportation of fruit, vegetables, and viticultural products of the State should not own and provide suitable cars for such traffic, as well as for other commodities handled by them, and we believe that some steps should be taken by the proper authorities looking to the relief of the great oppression under which these industries now suffer. Unfortunately, the matter is one over which this Commission has no control. The question of private ownership of these cars for interstate shipments rests more properly with the Interstate Commerce Commission of the United States, and has been considered by that body, and recommendations have been made that Congress enact suitable regulations to guard against unjust treatment. We are assured and believe that if such action is taken the shipments of these products of California East will increase annually.

## CLASSIFICATION ON PETROLEUM AND ITS PRODUCTS.

During the month of March, 1895, application was made to the Commission by the Southern California Railway Company and the Southern Pacific Company for the passage of an order rating petroleum and its products (in less than carloads) as first-class, instead of its present



rating as third-class. The presentation of this petition developed much opposition from many of the merchants and consumers of the State.

The reasons urged on behalf of said applicants are set forth in the following letters, as well as the protests received:

LOS ANGELES, March 9, 1895.

*To the Honorable Board of Railroad Commissioners for the State of California, San Francisco, Cal.:*

GENTLEMEN: By reference to page 63 of the Western Classification, it will be seen that burning fluid, camphene, and nearly all the oils, take, in less than carloads, first-class rate, while petroleum and its products, in less than carloads, take third-class rate.

In the handling of petroleum and its products the railroad company is at much greater expense and assumes much greater risk than in the handling of the other oils, and yet it is allowed less.

The penetrating quality of petroleum products make it unsafe to load them in the car with other freight, because the leakage which so frequently occurs would result in such damage to dry goods, clothing, groceries, vegetables, meats, and in fact nearly all kinds of freight, as to subject the railroad company to loss far beyond the amounts earned in freight charges.

If in its attempts to protect itself in this direction the railroad must, as it does, run cars especially for this oil, and run them often enough to avoid great delay in moving shipments, even though but a small amount has accumulated, the expense incurred in this extra service is so great that it is not reasonably compensated by third-class rate.

The practice of this company is to run oil-cars to the different portions of its line twice each week, and we find that these cars average about three tons per car leaving Los Angeles, and that, after a short distance on the line is reached and the distribution of the shipment is partially made, the cars are hauled a long distance with but a few hundred pounds of freight each.

In view of these facts, we feel that we are justified in asking from you a ruling permitting us to charge first-class rates on petroleum products when shipped in less than carloads.

Your earnest consideration and reply is respectfully requested.

Respectfully,

F. C. GAY.

SAN FRANCISCO, March 15, 1895.

*To the Honorable State Board of Railroad Commissioners, Chronicle Building, City:*

GENTLEMEN: Referring to our petition, presented in person by the Third Vice-President and General Freight Agent of this company, for an order by your honorable Board amending the Western Classification in its application to California roads so as to properly rate petroleum and its products in less than carloads—as first-class instead of its present improper rating as third-class—in behalf of the Southern Pacific Company, I beg leave to present the following:

As was stated to your honorable Board, the adoption of the present Local Tariff, which was put into effect by the State Railroad Commissioners on the first day of January, 1894, whereunder a very large reduction was made in the local rates charged by this company, averaging a little less than 11%, based on the Western Classification, was not contemplated without making some exceptions. Among the exceptions contemplated was the rating of petroleum and its products. It was proposed, instead of rating petroleum and its products as third-class in less than carloads, that it should be rated first-class in less than carloads; but, through inadvertence, the exception referred to was not brought to the attention of the State Board of Railroad Commissioners, and the tariff went into effect with petroleum and its products rated, in less than carloads, at third-class.

We maintain that upon any theory of classification by which it is designed to spread the revenue necessary to afford the carrier a reasonable return for its service over the various commodities produced and consumed in the territory served by it, so that the greater charge will be laid upon the commodity best able to bear it (*i. e.*, where the consumer or producer will feel it the least), and the lighter charge upon the article or articles of greatest importance to the producer and consumer, with due regard for relative cost to the carrier, petroleum and its products should be rated as first-class.

To this may be urged in reply: Why have the railroads using the Western Classification, of their own motion, placed petroleum and its products, in less than carloads, with third-class articles? The answer is, that classifications are largely arbitrary. The Western Classification had its origin with the Western roads, centering at Chicago, and chiefly with the roads leading from Chicago to the Northwest. Its adoption by other lines has been gradual. For example, it was adopted by the Union Pacific by reason of the Chicago & Northwestern Ry. and Chicago, Burlington & Quincy R. R. (both of them Chicago lines using the Western Classification) crossing the Missouri River and extending their lines into Nebraska, parallel with the Union Pacific, one on the north and the

other on the south. They carried the Western Classification with them and compelled the Union Pacific to adopt it, and in like manner it has been carried into Kansas, Texas, Colorado, and the Dakotas.

Petroleum and its products, in less than carloads, was originally rated higher than first-class, but the control of the shipment of this commodity has, as the Commission well knows, of late years settled into the hands of one or more powerful corporations, which could throw the traffic for competing territory by one or another line, regardless of the facilities furnished for transportation, or of the relative length of the lines, and of the cost of the transportation. The use of this power by these corporations controlling the commodity, and the competition between the various lines running from Chicago to the Northwest, effected serious and unreasonable reductions in rates, and had the result of settling the classification of the article, when in carloads, in the fifth class, and in less than carloads in third class, regardless of the fact that according to all principles of classification it should be rated first-class, or higher, when in less than carloads.

Coaloil should be rated first-class, or higher, for the reason, first, that, while it is an article of general consumption for illuminating purposes, it forms a very small share of the living expenses of an individual consumer, or of a family. So much is this the case that when followed to the final consumer, who must pay the entire cost of production, transportation, middlemen's charges, and profit, the difference between the cost to the consumer, with the freight rate figured at third-class, as at present, or at first-class, as we recommend, or at double first-class, what it was previous to January 1, 1894, would scarcely be noticed in a year's expenses of an individual or a family.

It should be rated at first-class, or higher, because there are few articles found within the first class that, relatively speaking, it costs the carrier so much to handle. It is so extremely volatile that the prevention of leakage is almost impossible. It has to be handled in freight depots with special care, a particular place being assigned to it, and it has a material influence upon the cost of insurance. It has to be loaded with special care to avoid leakage, and it cannot be loaded with other goods, because of its liability to damage them, either by contact or by taint of smell. It damages cars so that when used for hauling coaloil they cannot be used for hauling general merchandise or anything but coarse products which will not be affected by contact with the oil or by the smell from it.

It is extremely dangerous in case of fire, and some of the products of petroleum which are rated with it, such as naphtha and gasoline, are liable to explosion.

The recommendation which we urge upon your honorable Board will not affect the present rating of petroleum and its products, in carloads, nor will it in the least advance or affect the rates on the California product which is used for fuel. We believe that the change is entirely consistent with the public interests, and is certainly wholly consistent with any enlightened view of the theory and practice of classification, notwithstanding the fact of its being rated third-class in the Western Classification.

In conclusion, have to advise that the proposition as now presented means that the petroleum and its products rate, in less than carloads, under the proposed advance to first-class, if made, will even then be on an average 40% lower than prevailed December 31, 1893, and prior thereto.

Yours truly,

C. F. SMURR.

SOUTHERN CALIFORNIA RAILWAY COMPANY,  
LOS ANGELES, March 19, 1895. }

*The Honorable Board of Railroad Commissioners for the State of California, Chronicle Building, San Francisco:*

GENTLEMEN: Answering yours of March 14th: We send out our shipments of petroleum and its products twice a week, running three cars each time; that is, sending one car to each portion of our line.

The cars average about 6,000 lbs. leaving Los Angeles, but distribution begins immediately, and during the latter part of the haul the cars contain but very little freight.

The distance for the San Diego car is 130 miles; the Barstow car, 141 miles; the San Jacinto and Temecula car, 111 miles.

This, you will see, is very excessive service for the revenue it is possible for us to earn, and there is no possible way that we can consolidate shipments with other freight without incurring greater loss from leakage than we are compelled to assume for this extra service.

Respectfully,

F. C. GAY,  
G. F. A.



OFFICE OF THE SAN FRANCISCO PAINT, OIL, AND VARNISH CLUB,  
 SECRETARY'S OFFICE, 324 FRONT STREET,  
 SAN FRANCISCO, CAL., March 26, 1895. }

H. M. LA RUE, Esq., *Chairman Board of Railroad Commissioners of California, San Francisco, Cal.:*

DEAR SIR: We notice that an application has been made by the Southern Pacific Company to increase the rate on petroleum and its products from third-class to first-class in less than carload lots. In many instances this would increase the freight rate on this class of goods 15% over the present schedule. The assertion is made by the Southern Pacific Company's representatives that, while this would amount to a considerable increase of freight over present tariff rate, it would not work a hardship on the individual, on account of the small amounts of petroleum and its products used by any one single person. We are of the opinion that local rates are, and always have been, much higher than they should be, and that this opinion is voiced by the entire business community is clearly proven by the action of our leading citizens in inaugurating our new local railroad (the S. F. & S. J. R. R.), and also by their prompt and liberal offers of coin and land as gifts and bonus, and still further by the rapid and prompt action in subscribing over two and one half million dollars in coin for the stock of the new road.

There are other reasons why the present rates should not be increased in less than carload lots. The bulk of this trade is carried on in small lots of less than carload quantities. We contend that the request, as it reads, "petroleum and its products," covers a large commodity only apparent to those engaged in the oil business. It would increase the rate to the farmer not only on coaloil for light, for many of the farmers and residents of interior towns (where there are no electric-light or gasworks) use coaloil in coaloil lamps for heating, thereby taking the place of coal as fuel. Naphtha and gasoline are also the products of petroleum, and large quantities are used for heating and cooking purposes. Cylinder and machine oils for harvesters, threshing-machines, and windmills are, in the main, products of petroleum. It would tend to raise the rate on these articles in the same ratio, and would certainly increase the cost to the farmer to a considerable degree, so he would not only have to pay a higher price for light and fuel, but also for oil for his machinery.

We trust you will arrive at no hasty decision until we can present your honorable body with a more definite statement giving facts and figures in detail, rather than in a general way, as appears in this letter from the Paint, Oil, and Varnish Club, comprised of the following leading firms engaged in the oil and varnish business on this Coast, viz.:

W. P. Fuller & Co.; Tamm & Nolan Co.; Bass, Hueter Paint Co.; Union Oil Co. of California; Yates & Co.; A. C. Dietz & Co.; Standard Oil Co.; Paraffine Paint Co.; G. Ammerup; R. N. Nason & Co.; American Oil Co.; Arctic Oil Works; F. P. Joyce; Magner Bros.; Coburn, Tevis & Co.; J. P. Jourden Occidental Varnish Works; E. B. Read; San Francisco and Pioneer Varnish Works; Pacific Oil and Lead Works; Ensign & McGuffick.

(Signed :) J. P. JOURDEN, President.

(Signed :) SAM MAGNER, Secretary.

SECRETARY'S OFFICE,  
 SAN FRANCISCO PAINT, OIL, AND VARNISH CLUB,  
 No. 324 FRONT STREET, SAN FRANCISCO, CAL., April 9, 1895. }

HON. H. M. LARUE, *Chairman Board of Railroad Commissioners of California, San Francisco:*

MY DEAR SIR: In our last communication to your honorable body we promised to give you some of the practical reasons why the rate on petroleum and its products in California should not be increased from third-class to first-class. That petroleum and its products enter largely into the freight traffic of all California roads we all must concede. That it is as staple a product as any handled by transportation companies is also evident to all. Had this not been the case, it would long ago have been placed in the list of first-class commodities in place of third, as at present.

The coaloil traffic alone is very extensive, as is evidenced by the large quantities daily passing over the lines of the Southern Pacific and other roads in California, and also by the heavy shipments by clipper—nearly every vessel of the Sutton line from New York and the East to this port carrying oftentimes as much as 10,000 cases of ten gallons each, and frequently double and treble that quantity; and, as but a small portion of this product is consumed in this city, it naturally must find its way to the large fertile valleys of the interior. Perhaps by endeavoring to raise the classification (which would increase the rate) the railroad company wish to recoup themselves for the loss of this ocean traffic by levying a heavier traffic upon these same goods when they are forwarded by our merchants to points in the interior. The advance therefor in local freights would undoubtedly tend to discourage shipment by sea.

The cost of a package of ten gallons of coaloil in New York and Pennsylvania is \$1 10 per case, or 11 cents per gallon. The freight by rail to San Francisco is 77 cents per case, or 95 cents per 100 lbs., while the freight by sea is but 60 cents per case. The present

rate on coaloil from San Francisco to Bakersfield, 314 miles, is 74 cents per case, as against 77 cents per case from Pennsylvania to San Francisco, a distance of 3,000 miles. If the advanced rate asked for is granted, the rate from San Francisco to Bakersfield would be 81 cents per case.

The local rate to—

Ager, 362 miles, is	\$1 10 per 100, or 88 cents per case.
Truckee, 209 miles, is	92 per 100, or 74 cents per case.
Tulare, 251 miles, is	73 per 100, or 53 cents per case.

The change in classification would increase these rates as follows:

Ager, 362 miles, \$1 30 per 100, or \$1 04 per case.
Truckee, 209 miles, 1 22 per 100, or 98 per case.
Tulare, 251 miles, 85 per 100, or 66 per case.

Should these rates be advanced it would result in the immediate advance of this necessary product in proportion to the advance in freight by change of classification, and you must certainly be aware of the fact that our local freights are the fetters to our prosperity. It is these excessive charges that have mortgaged our farms and created bankruptcy and distress among the residents of this State. We therefore would pray that you refuse the request of the railroad company to advance the rate upon petroleum and its products from third-class to first-class.

Very respectfully yours,

CAL. PAINT CO.  
MAGNER BROS.  
G. AMMERUP.  
UNION OIL CO. OF CAL.  
ARCTIC OIL WORKS.  
YATES & CO.  
R. N. NASON & CO.

J. P. JOURDEN.  
PARAFFINE PAINT CO.  
BASS-HUETER PAINT CO.  
ENSIGN & MCGUFFICK.  
COBURN, TEVIS & CO.  
AMERICAN OIL CO.  
A. C. DIETZ & CO.

SAN FRANCISCO, May 23, 1895.

*To the Honorable Board of Railroad Commissioners, State of California, City:*

GENTLEMEN: The Railroad Company, through its General Freight Agent, Mr. C. F. Smurr, gives as a reason why petroleum and its products should be rated as first in place of third class, the following: That in order to produce sample revenue the greater charge should be laid upon the commodity best able to bear it (i. e., where the consumer or producer will feel it the least), and lighter charge upon the articles of greater importance to the producer and consumer, with due regard for the relative cost to the carrier. Then petroleum and its products should be rated first-class, for the reason that the consumer or producer will feel it the least. We feel certain that your honorable body will readily perceive that the consumer will certainly feel the effects of this contemplated raise in local freight rates very materially, and it will now be made more apparent on account of the fact that the main producer has already raised his prices on all petroleum products, and on the major part, that is, coaloil, from 40% to 50%; the prices of crude, which they control, perhaps justifying it to a great extent. The railroad company certainly does not think that the main producer objects to this raise in rates, and no doubt they will inform you that the company referred to has offered no objection; for, as they state in their communication later on, giving as one of the reasons why the Western Classification was made to read third-class in less than carloads lots, for the fact that one or more powerful corporations controlling the industry of petroleum and its products could, by using one Eastern competing line against the other, force it to its terms, and did force the Railroad Company, naming the U. P., C. & N. W., and the C. B. & Q., and in a like manner compelling the western lines to adopt its arbitrarily enforced classification—third-class in carloads. If this producer had sufficient power to force all the Eastern roads to its own terms, is it at all likely that it opposes the Railroad Company in this issue? We venture to say that if this change was distasteful to them, the Railroad Company would not even attempt to have the classification changed.

The railroad admits the fact that coaloil is an article of general consumption, but it errs when it states that it forms a very small share of the living expenses of a family, and that, even though the additional burden were imposed, it would not then be felt by the individual or family in a year's expense account. Perhaps not to the representatives of the road in question. We do not suppose that they use one gallon of coaloil in a year, living in the city, where gas and electricity are usually furnished to all first-class, well-equipped homesteads; but such is not the case with the farmer in the San Joaquin Valley, where he cannot obtain these city luxuries on account of there being no gas and no electric light plants in his immediate vicinity. Coaloil is one of his heaviest household expenses—not only does he use it for light, but as fuel for cooking purposes, and for heating his family sitting-room on cold, rainy days in the long, dreary



months. This extra charge will not fall upon those who are able to bear it, but upon the middle and poorer classes, who already have all the burdens they can carry.

Coaloil may not be as pleasant to carry as heavy dry goods, groceries, etc., but it is far preferable to many other products carried by the railroad, and but few have any idea of the extent of the traffic in petroleum and its products. There are some few articles, we all admit, that could not safely be carried in a car loaded with coaloil or any of the more volatile products of petroleum—such absorbents as sugar or crackers in the grocery line; but then, again, it would hardly damage hardware to any extent. Agricultural implements and hundreds of other things could be loaded in the same car without incurring any risk whatever. They only send out the more volatile products once or twice a week, on what they term "Coaloil Days," and they generally have many cars well loaded for all the various towns en route; the travel being very extensive indeed, all of which they admit in their communication of May 15th.

We hope that the figures we have heretofore given you, showing to what extent this advance in local freights would tend to increase the cost of living upon the poorer classes, already overburdened in these exceedingly dull times, on a commodity that only pays third-class, in less than carload lots, on any of the representative roads using the Western Classification. We know and trust that your honorable body understands the fact that it is the sentiment of this entire community that local rates in the State of California, and in fact all over the Pacific Coast, are not only too high, but far in excess of the rates charged on any other of the great railroads in the United States. Of this fact you have been quoted time and again, as the records of the daily press will prove. If you have the interests of the major part of the community at heart, you will kindly leave the rate as it is at present, and by so doing confer a favor, not only upon the undersigned, but upon the great masses of the people of the State of California.

Very truly yours,

THE SAN FRANCISCO PAINT, OIL, AND VARNISH CLUB.  
By Committee.

On April 10, 1895, this subject was taken up for consideration, at which time H. C. Bush, of the Southern California Railway Company; J. C. Stubbs, Vice-President, and C. F. Smurr, General Freight Agent, of the Southern Pacific Company, and F. X. Ryan, General Passenger and Freight Agent of the San Francisco & North Pacific Railway Company, appeared and addressed the Board advocating the desired change. The merchants interested having failed to appear at this meeting, the Board decided to continue the further hearing of the question until the 23d day of May, 1895, and issued subpoenas for the parties who had signed the protests against the advancement of the commodity from the present classification. On that day E. F. Ensign, J. P. Jourden, C. M. Yates, C. W. Coburn, J. M. Emery, and J. L. Ebner appeared and addressed the Board in support of their opposition to the change. A full hearing and investigation was held, with the result that the application of the railroad company was denied.

#### POWER OF COMMISSION OVER STEAMERS.

The authority of this Commission to regulate charges for freight and fares by transportation companies other than railroads has been repeatedly questioned by such companies engaged in navigating the waters of the State, and notwithstanding repeated demands on the part of this Board for data concerning the amount and nature of the business transacted, and which it was our purpose to use for the regulation of such charges, we have been unable as yet to secure any recognition from them of our rights to make such demands or to regulate such charges. This question has received the careful attention of this body, and we believe no doubt can exist as to the power of regulation by this Commission. The matter of law here involved was submitted to the Attorney-General of this State for his opinion, which is as follows:

## OPINION OF ATTORNEY-GENERAL.

SACRAMENTO, February 27, 1895.

*Honorable State Board of Railroad Commissioners, Chronicle Building, San Francisco, Cal.:*

GENTLEMEN: Replying to your favor of the 15th inst., in regard to your right "to demand of transportation companies the data essential to be used by the Board in pursuance of its duties in establishing passenger and freight rates over the lines of such companies," I refer you to the following provisions in Section 22 of Article XII of the Constitution, concerning Railroad Commissioners:

"Said Commissioners shall have the power, and it shall be their duty, to establish rates of charges for the transportation of passengers and freight by railroad or other transportation companies; \* \* \* to examine the books, records, and papers of all railroad and other transportation companies, and for this purpose shall have power to issue subpoenas and all other necessary process."

For the legislative interpretation of the term "transportation companies," as used in the section of the Constitution quoted above, you are referred to Section 14, and the subdivisions thereof, of an Act entitled "An Act to organize and define the powers of the Board of Railroad Commissioners," approved April 15, 1880, which section reads as follows:

"Sec. 14. The 'transportation companies' shall be deemed to mean and include:

"First—All companies owning and operating railroads (other than street railroads) within this State.

"Second—All companies owning and operating steamships engaged in the transportation of freight or passengers from and to ports within this State.

"Third—All companies owning and operating steamboats used in transporting freight or passengers upon the rivers or inland waters of this State.

"The word 'company,' as used in this Act, shall be deemed to mean and include corporations, associations, partnerships, trustees, agents, assignees, and individuals. Whenever any railroad company owns and operates, in connection with its road and for the purpose of transporting its cars, freight, or passengers, any steamer or other water-craft, such steamer or other water-craft shall be deemed a part of its said road. Whenever any steamship or steamboat company owns and operates any barge, canal-boat, steamer, tug, ferry-boat, or lighter in connection with its ships or boats, the things so owned and operated shall be deemed to be part of its main line."

In acting under the provisions of the Constitution cited, your duties in regard to fixing passenger and freight rates, both for railroads and other transportation companies, are confined strictly to transportation wholly within this State. In other words, you cannot interfere in any manner with interstate commerce, your jurisdiction being limited to fixing the rates for such passenger and freight traffic as is conducted between different points within the boundaries of this State.

Respectfully,

W. F. FITZGERALD,  
Attorney-General.

This opinion has been accepted by us as correctly stating the law in the premises, and it is the intention of the Commission to take the necessary steps to enforce compliance with our orders. Immediate action would have been taken had it not been that the attention of the Board has been occupied with matters of much greater moment.

## STREET AND ELECTRIC RAILWAYS.

Another controversy of a similar nature has taken place between this Commission and various motor and electric railways engaged in the transportation of freight and passengers. While the number of these roads is at present small, still the wonderful progress of electricity as a motive power will, in a short time, we believe, cause the construction of numerous electric roads for the purpose of engaging in local freight and passenger carriage. It is important to have the question of the jurisdiction of this Board ascertained, and in the proceedings contemplated by us we believe an authoritative decision can be secured which will finally determine the powers of this Commission over all transportation companies. On this subject we are advised by the Attorney-General, as follows:

## OPINION OF ATTORNEY-GENERAL.

"I am of the opinion that 'street railroads,' within the meaning and intendment of the exception to the definition of 'transportation companies' found in Section 14 (sub-division 1) of the Act to organize and define the powers of the Board of Railroad Commissioners (Statutes of 1880, p. 48), are such roads only as are used exclusively for the transportation of passengers.

"Booth, in his work on Street Railway Law, Section 1, says:

"A distinctive and essential feature of a street railway, in relation to other railroads, is that it is *exclusively* for the transportation of *passengers and not of goods.*"

"And in a leading case (*Williams vs. Electric R. R. Co.*, 41 Fed. Rep. 556; 43 Am. and Eng. R. cases, 215), the United States Circuit Court held that 'the difference between street railways and railroads for general traffic consists in their *use*, and not in their motive power; that a railroad which runs at a moderate rate of speed, *which carries no freight, but only passengers* from one part of a thickly populated district to another in a town and a city and its suburbs is a *street* railway, no matter whether the cars are propelled by animal or mechanical power.' Our Civil Code also, in the title devoted to 'Street Railroad Corporations' (Division 1, Part IV, Title IV), treats of them throughout with relation to passenger traffic only.

"These authorities fully sustain my conclusion.

"If the franchises of the 'electric and motor railroads' in question merely authorize them to operate as 'street railroads,' then, in assuming to act as 'transportation companies' in the carrying of passengers and freight, or freight only, they are unlawfully exercising their franchises (Code of Civil Procedure, Section 803); and if your Board will furnish me with evidence of that fact I will at once institute proceedings against them to forfeit their franchises, and at the same time to enjoin them from further operating their roads as carriers of freight. If, however, they are authorized by their charters to carry both passengers and freight, or freight alone, then they are 'transportation companies,' as defined by the Act of 1880, and within the meaning of Section 22, Article XII, of the Constitution; and are subject to the jurisdiction of the Board of Railroad Commissioners.

"W. F. FITZGERALD,  
"Attorney-General."

## ATLANTIC &amp; PACIFIC RAILROAD.

The Atlantic & Pacific Railroad Company (a corporation organized under an Act of Congress of the United States, approved July 2, 1886) is engaged in the transportation of freight and passengers within this State. We find this company has repeatedly denied the jurisdiction of this Board over its affairs, and its views of the matter are expressed by the following letter, now part of the records of this Commission:

ALBUQUERQUE, N. M., April 23, 1892.

*To the Honorable Board of Railroad Commissioners of the State of California:*

GENTLEMEN: Pursuant to the understanding reached at a conference had between the honorable Board and William C. Hazeltine, the then solicitor of this company, on the tenth day of February, 1887, I have the honor to submit, attached hereto, a report of the Atlantic & Pacific Railroad Company for the year ending December 31, 1891, which I have had compiled, as nearly as possible in the form prescribed by your Board, from the report made by our company to the Secretary of the Interior of the United States, as provided for in the Act incorporating this company. In submitting this report I desire to call your attention to the position assumed by this company, which is, that being a Federal corporation, created by the supreme legislative authority of the nation, and being by that Act constituted a Federal agency, fully empowered to fix and determine our own rates of fares and freights, and being required to make an annual report to the Secretary of the Interior, according to a form prescribed by his department, we do not believe that we could be lawfully required or legally compelled to make any report to your honorable Board; but, being willing and anxious to aid you, so far as may be, in the performance of your duties, we take pleasure in handing you as full a report as can conveniently be compiled from the one furnished by the Secretary of the Interior, as aforesaid, hoping and believing it will give you generally such information as you may require, at the same time protesting that, in making this report, we do not do so under compulsion, but voluntarily, not intending thereby to waive any rights the Atlantic & Pacific Railroad Company has or may have by its Federal charter, or otherwise, but wise, it may have as a national corporation, Federal agency, and interstate railroad.

Respectfully submitted.

C. N. STERRY,  
General Attorney.



While our predecessors in office may have accepted this condition, we desire to announce that we do not in any manner agree to the same. Complaints have been made to us against this company concerning its local traffic, and are under investigation. Our determination is to fully inquire into the local affairs and charges of this corporation, and deal with them the same as with the affairs of the other railroad corporations of the State. This we understand we are fully justified in doing, under settled law.

#### UNIFORM SYSTEM OF ACCOUNTS.

Another important provision of the State Constitution is that which provides: "Said Commission shall prescribe a uniform system of accounts to be kept by all such corporations and transportation companies." No Commission, to our knowledge, has ever attempted the enforcement of this provision. It is most important, and the adoption of such a system would do much to simplify railroad affairs, and enable this Commission to obtain information absolutely essential for the transaction of its business. This subject has been considered by us for some time, and we expect to be enabled to perfect and put in force such a system as is contemplated by the Constitution.

#### RAILROAD COMMISSIONS.

We have entered into communications with the various Railroad Commissions throughout the United States, and have, by a mutual interchange of ideas and data, succeeded in securing much valuable information which will be of great service. On file in our office we have the reports of most of these Railroad Commissions.

#### GRAIN SCHEDULE.

By far the most important matter that has engaged the attention of the Commission has been the adoption of a schedule of rates for the transportation of grain over the leased lines of the Southern Pacific Company within this State. Almost the entire traffic of the State is carried by this corporation, and from our inception into office its affairs have received the most careful attention and consideration. Complaints of its charges for freight and passengers transported have been made, and action has been taken reducing charges and formulating a new schedule of rates, particularly on grain shipments. The proceedings incident to this subject we deem proper to state with some particularity.

#### RESOLUTION OF H. M. LA RUE.

On the 14th day of August, 1895, Commissioner La Rue introduced the following resolution:

WHEREAS, The Southern Pacific Company did, during the year 1894, assure the people that material reductions in rates for the transportation of grain would be made over their Pacific System in California; and

WHEREAS, In accordance therewith it did, on the 29th day of December, 1894, adopt, publish, and put into effect a schedule of rates on grain, known and designated as Grain Tariff No. 2, wherein many reductions were made between the various stations within the grain-producing sections and points of delivery, said reduced rates not being general, but applying to certain sections of the State only; the reductions so made varying from four (4) per cent to twenty (20) per cent, or thereabouts, while in many localities no



reduction whatever was made, and in other sections, where no grain is produced for shipment and but little transported by the railroads, the rates were very materially reduced, varying from thirty (30) cents to three (3) dollars per ton; and

WHEREAS, The reductions noted are inadequate and do not afford the relief required and necessary to enable the producer to put his grain in the market at a reasonable rate, as the rates now charged are exorbitant, excessive, and greater than the producer can afford to pay, the cost of transportation being greater than the traffic will bear; and

WHEREAS, Owing to the general depression in all kinds of business and to the very unremunerative prices received by the producer for all kinds of cereal products, the rates for transporting to market or shipping points should be reduced to the very lowest possible figure that will afford the carrier a reasonable and just compensation for such service; now, therefore, be it

*Resolved*, That Grain Tariff No. 2, adopted, published, and put into effect on December 29, 1894, by the Southern Pacific Company, with all subsequent amendments thereto, applying on straight or mixed carloads of grain, bran, shorts, middlings, feed, ground, cracked, or rolled barley, and cracked corn in sacks, between San Francisco, Oakland Wharf, Port Costa, Nevada Dock, Benicia, South Vallejo, Stockton, Sacramento, Marysville, Los Angeles, Port Los Angeles, and San Pedro, and stations on the Southern Pacific Company's Pacific System named therein, and being in the State of California, *be and the same is hereby amended, as follows:*

"A general reduction from present rates of fifteen (15) per cent of each and every rate charged between any and all points or stations named in said tariff or schedule is hereby made, except that between the following-named stations and all points named in said tariff or schedule, the rate shall be reduced twenty (20) per cent from present rates, to wit: Lincoln, Ewing, Sheridan, Wheatland, Reeds, Rupert, Marysville, Raminex, Coombs, Honcut, Palermo, Vanclose, Cox Lane, Villa, Verona, Oroville, Marrits, Mullen, Woodland, Curtis, Knights, Chandler, Marcuse, Tudor, Oswald, Bogue's Spur, Yuba City, Vacaville, Violet, Hartleys, Allendale, Wolfskill, Winters, Elys, Cutrona, Madison, Esparto, Capay, Cadanessa, Tancred, Surry, Amaranth, Guinda, Sauterne, Cashmere, Rumsey, Homestead, New Ramona, Perkins, Manlove, Mayhew, Routiers, Mills, Soudan, Salsbury, Natoma, Alder Creek, Orchard, Folsom, White Rock, Cothrins, Latrobe, Flonellis, Bryant, Brandon, Dugan, Bennett, Shingle Springs, Cummins, El Dorado, Diamond Springs, and Placerville; and said rates so amended, established, and adopted shall be the maximum rates allowed to be charged on said Southern Pacific Company's Pacific System in California."

NOW, THEREFORE, In pursuance of an Act to organize and define the powers of the Board of Railroad Commissioners (Sec. 11, Chapter 59, Statutes of 1880) and the rules of this Commission, it is accordingly

*Ordered*, That a certified copy of the resolution and order adopting the amended schedule be served by the Secretary of this Commission upon the Southern Pacific Company; and in case said company shall prefer for its own convenience, and to simplify the duties of all concerned, to make its own copies of such amended schedule, and shall consent to put the same in operation within twenty (20) days from and after the service of said order, and in accordance therewith, it may do so, without further preliminary process or proceeding to enforce the same; provided, said company or its general manager shall, within three (3) days from and after the service of said order, acknowledge the service of said amended schedule by printed copy, expressly waiving all other service or notice thereof in writing, addressed to said Commission and to be filed and remain of record in the office of said Commission. And it is

*Further ordered*, That if such acknowledgment, and waiver as aforesaid, shall not be filed in said Commissioners' office within three (3) days from and after the service of such order, as aforesaid, then and in that event said Secretary shall immediately proceed to print such schedule and order, and to serve printed copies on the said Southern Pacific Company, and shall keep a record of his action in the minutes of said Commission.

J. C. Martin, Esq., attorney for the Southern Pacific Company, appeared before the Board and requested that said company be furnished with a copy of the resolution, and that action thereon be deferred to enable him to present testimony and data in opposition to any reduction in rates, and in compliance with the request the consideration of the question was continued until August 28, 1895.

#### STATEMENT OF COMMISSIONER STANTON IN REFERENCE TO GRAIN RATES.

On said day the Board met, and prior to the hearing of any testimony or commencement of the investigation, Commissioner Stanton submitted the following statement in reference to grain rates:

SAN FRANCISCO, August 28, 1895.

As Commissioner from the Second District, I submit the following facts for the consideration of this Commission:

At the session held August 14, 1895, the Commissioner from the First District presented

a resolution having for its object a reduction of rates upon grain from all points in California on the Southern Pacific Company's Pacific System. The proposed reduction would be a general cut of 15% on the rates published in Grain Tariff No. 2 and subsequent amendments, and a reduction of 20% on rates charged by this company from seventy-one stations north of Port Costa and Sacramento. I was not accorded the privilege of examining this resolution prior to the meeting, and consequently could not vote for its adoption. Copies of this resolution and the proceedings held upon that day have been served upon the company named in the resolution, and this company asked for time in which to prepare data showing that this order should not be enforced. As a Commissioner, and basing my conclusions upon a thorough investigation of the subject, I believe that there are many reasons to urge against the adoption of this measure. The preamble to this order contains many statements which are not borne out by the facts of the case; and the order, if adopted and enforced, would certainly fail to accomplish the results which have been so earnestly desired by all who are directly interested in the question of transportation in this State. I speak of the discrimination which exists on the Pacific System of the Southern Pacific Company. If the gentleman who presented this resolution had arranged a schedule as required by the law which governs our actions, these discriminations would have been at once apparent, and it would not have required much calculation to show that the charges in different localities range from .017 to a rate exceeding 10 cents per mile. There may be reasons advanced for these discriminative charges which, from our worthy Commissioner's experience as a shipper, are entitled to due respect and consideration; but, if reasons are not forthcoming, and it is admitted that these discriminations exist, then I ask how it is possible to regulate this condition by adopting such an order as the gentleman proposes? Would not a schedule based upon a general reduction of 15%, and excepting only the seventy-one stations which are affected by the proposed 20% reduction, still maintain these irregularities? If the Commissioner is correct, the reductions made have not been general, and, consequently, should this order be enforced, you would find the wheat-shipper in one section of the country receiving a reduction of 15% on the rates of Grain Tariff No. 1, when another shipper has derived a benefit of about 32% on the rates of the same tariff. A comparison of the rates from Dinuba to Port Costa and Salida to Stockton may serve as an illustration of this fact. Many of the stations named in the resolution, as affected by the 20% reduction, show no grain shipments either in 1893 or 1894, notably on the Sacramento and Placerville branch. The same irregularities exist as to the rates, and, in some instances, 11 cents per ton per mile is charged for transportation of grain.

The horizontal reduction of 20% would not place these stations on an equal footing.

For these reasons, I am opposed to the adoption of this order, and I am certain that if the Commissioner will go into the detail of a schedule based on his order, he will agree that the facts are as I have presented them before this Commission. I am in favor of reduction of the freight rates on all commodities where the rates are unjust and unreasonable, but as it is claimed that rates have been established on a commercial basis, and the reductions of rates upon one commodity would seriously affect the rates governing the movement of another, to be consistent this Commission should give an impartial hearing to all parties concerned, and, when a reduction is determined upon, give the shipper of all commodities affected by unjust rates the proper percentage of said reductions; to determine this fact, I am in favor of changing the order of these proceedings and offer a resolution to that effect.

The order of Commissioner La Rue, if adopted by this Commission, could not possibly affect the movement of the grain crop this season.

Now, a word as to newspaper criticisms: I have been censured by a certain newspaper of this city for the reason that I would not commit myself to Commissioner La Rue's resolution. The public has been informed that my vote upon the question will be the test of the honesty of my future action in the Commission. I shall perform my official duties regardless of criticism, and the annual report of this Commission for 1895 will furnish all the necessary information to our proceedings during the past year.

#### INVESTIGATION.

After some discussion by the respective members of the Commission, it was then stated by the representatives of the Southern Pacific Company that the subject of grain rates was so interwoven with the general freight rates of the company that the showing to be made by them would be of a general nature, and would be in opposition to any reduction of their rates, whether upon the grain or any other tariff then existing, and that the testimony to be offered would be as to the general fairness and correctness of their rates of charges. Upon this understanding the hearing and investigation proceeded, and was continued from day to day until September 7, 1895. A full opportunity had been



given for the presentation of evidence, and the following witnesses: C. F. Smurr, General Freight Agent; W. G. Curtis, Assistant to the General Manager; Gerrit L. Lansing, Secretary and Controller, and W. B. Curtis, of said company, were sworn and examined by their attorney and members of the Commission. The attorney at this time announced that he had no further testimony to offer, and addressed the Board at length on the merits of the case. The testimony taken on this hearing is voluminous, aggregating 2,128 folios, now on file in this office, and on account of its great length we do not deem it necessary to submit the whole of said proceedings, but take from the same, extracts of September 7th, 12th, and 13th, as follows:

"SEPTEMBER 7, 1895.

"COM'R STANTON. Are we ready to go on now with the discussion of this resolution?

"THE CHAIRMAN. I think so. The question before the Commission is the resolution introduced by myself.

"COM'R STANTON. I have a communication here which I would like to have read.

"(The Secretary then read Commissioner Stanton's communication, as follows:)

#### COMMUNICATION OF COMMISSIONER STANTON.

"The question for decision to which I shall direct my attention is, are the rates charged by the Southern Pacific Company and its leased lines for the transportation of freight within the State of California such as are just and fair between the carrier and the people of the State?

"The investigation held by this body has not been confined to the consideration of the resolution presented by the Chairman of the Board, but the scope of inquiry was broadened to such an extent that, in my opinion, we are now enabled to pass upon the reasonableness of freight charges of the Southern Pacific Company in California.

"On the part of the company the claim is made that the present rates are as low as can be charged in order to enable the company to pay its operating expenses, taxes, and interest.

"As a member of this Commission, since my induction into office, I have endeavored to obtain from all sources all information which would enable me to act intelligently and conscientiously upon the questions arising before this body. And for such purpose, as well as to show a full showing to be made, I have favored, since the inception of the proposition to reduce the charges of the Southern Pacific Company, the granting of its request for a full hearing as to its condition and affairs.

"This hearing was not granted as a matter of right, for, according to law, as I am advised, this Commission is under no legal obligation to give notice or a hearing to any corporation or person whose rates are affected by its orders.

"In the case of the *Spring Valley Water Company vs. San Francisco*, 82 Cal. 286, the company sought to annul an order of the Board of Supervisors fixing their rates of charges for water made without notice to them, and without any opportunity afforded them of being heard concerning the same.

"The authority of the Board was derived from a provision of the State Constitution similar to the one under which this Board is now acting, and one of the points made by counsel for the company was:

"The fixing of rates without notice and a hearing is opposed to the first principle of law and justice. Notice and opportunity to be heard are essential elements of due process of law, whatever the nature of the power exercised."

"Deciding this point, the Court makes use of the following language:

"On the part of the respondent, it is contended in support of the decision of the Court below that notice to the plaintiff of an intention to fix the rates was necessary, and that without such notice being given the action of the Board was a taking of its property without due process of law. But the Constitution is self-executing, and as it does not require notice we think no notice was necessary."

"Justice Miller, of the Supreme Court of the United States, in the case of the *Chicago, M. & St. P. Ry. Co. vs. State of Minnesota*, 10 Sup. Ct. Rep., p. 702, passing upon the powers of Railroad Commissioners to fix rates, uses this language:

"I do not agree that it was necessary to the validity of the action of the Commission that previous notice should have been given to all common carriers interested in the

rates to be established, nor to any particular one of them, any more than it would have been necessary—which I think it is not—for the Legislature to have given such notice if it had established such rates by legislative enactment.'

"The affairs of the Southern Pacific Company are of a most complicated and anomalous nature—a foreign corporation, for some ulterior purpose unknown to this Commission, organized and existing under the laws of the State of Kentucky, entirely without the ownership of a mile of road, engaged in both local and transcontinental traffic.

"Operating under its management a large number of leased lines, in many of which the principal stockholders of the Southern Pacific Company own the controlling interest, it is enabled by its system of keeping accounts to so complicate matters as to render it most difficult to arrive at a correct conclusion as to its exact condition with regard to its local traffic.

"This company has expended large amounts of money in the acquisition and maintenance of miles of railroad in and through mountainous country having but little connection with and being of slight practical benefit to the local traffic of California, and used by it almost solely in connection with its transcontinental business.

"The pretended original cost of this road, the cost of maintenance, and the interest upon the said original cost, they seek to charge against the local traffic of California. To my mind this is improper and should not be allowed.

"I am satisfied that the value of the properties operated by this company, as represented in connection with their bonded indebtedness, is excessive and out of all proportion to their real or market value. In this connection it is important to note the testimony of Mr. Lansing, who states that the assessed value of the road is much less than its real or market value. A comparison of the value of these properties as fixed by the State Board of Equalization (and shown by its records) for the purposes of assessment, with the value of the same as shown by the reports of the different companies for the purposes of a foundation for the issuance of bonds, would astound any person not familiar with the financial systems of these companies.

"The law of the State requires all property to be assessed at its actual value. Surely if the assessed value is good enough for the railroads to pay their taxes upon, the same ought to be of some considerable assistance in determining the value of the properties and of the amount for which bonds should be issued.

"My investigation has forced me to the conclusion that the bonded indebtedness of the company is grossly excessive and represents a fraudulent issue; that the bonds to a great extent are owned by the stockholders of the roads; that the fixed charges and operating expenses of the roads have been greatly inflated, and as represented do not constitute a correct and proper basis for the adjustment of rates—to be paid by shippers—for services rendered by the carrier.

"Necessarily, the greater issue of bonds requires higher freight and passenger rates to meet the excessive interest, but, while the statement is true that the interest on legitimate and honest debts of the companies must be paid, the laws of the country will not permit or tolerate fraud, and will not compel shippers to bear the burden of fictitious debts represented by bonds—wrongfully and fraudulently issued by these companies; nor will they tax the shipper unnecessarily to pay exorbitant salaries to officers. In this connection the language of the Supreme Court of the United States in the case of *Regan vs. Farmers' Loan and Trust Company*, 14th Sup. Ct. Rep., p. 1047, is quite applicable, and is as follows:

"It is unnecessary to decide, and we do not wish to be understood as laying down as an absolute rule, that in every case failure to produce some profit to those who have invested their money in the building of a road is conclusive that the tariff is unjust and unreasonable. And yet justice demands that every one should receive some compensation for the use of his money or property, if it be possible without prejudice to the rights of others. There may be circumstances which would justify such a tariff. There may have been extravagance and a needless expenditure of money. There may be waste in the management of the road, enormous salaries, unjust discrimination as between individual shippers, resulting in general loss. The construction may have been at a time when material and labor were at the highest price, so that the actual cost far exceeds the present value. The road may have been unwisely built, in localities where there is not sufficient business to sustain a road. Doubtless, too, there are many other matters affecting the rights of the community in which the road is built as well as the rights of those who have built the road.'

"The evidence clearly shows that the owners of the stock of the main company and many of its leased branches are the same, and that by means of leases, contracts, and other arrangements, they are enabled to deal with themselves and divert the traffic and revenue of the road as they may desire.

"One of the main instruments by which this has been accomplished is the Pacific Improvement Company, a corporation, most of whose stock is owned by the individuals who own the stock of the Southern Pacific Company.

"This corporation is engaged in the business of contracting, and does a great percentage of the work of the Southern Pacific Company, and receives in payment therefor the bonds of the companies benefited. How are their bonds accepted? Honesty would suggest at their par value. Is this the case? No. The testimony of Mr. Lansing shows that they are given in payment at far less than par, the exact amount not appearing before the Commission.

"The result is that these bonds so issued constitute part of the bonded debt of these



companies, which in this manner has been increased many millions of dollars. It is claimed that we must so establish rates as to enable the interest on this debt to be paid from the company's earnings.

"For us to adopt any such standard would be robbery and theft of the money of the people of California.

"A review at this time of the evidence and figures offered before the Board would serve no useful purpose. I shall therefore state my conclusions.

"From a careful and thorough investigation and examination made by me since the commencement of my term of office into the affairs of the Southern Pacific Company and its leased lines, and after considering the evidence offered by said company at this investigation, I am of the opinion that the present rates of charges for the transportation of freights in California by the Southern Pacific Company and its leased lines, are unjust to the shippers of the State, and should be subjected to such an average reduction as, including all reductions therein made since December 1, 1894, shall equal an average reduction of 25% on said rates as in existence on said December 1, 1894.

"Such being my conclusion, it necessarily follows that I should propose and favor a reduction of rates accordingly. The distribution of this reduction over the different commodities of freight requires the exercise of a careful discretion and judgment.

"The resolution introduced by the President of the Board contemplates relief to the grain-farmers of the State alone, and immediate action is asked on their behalf on account of the financial distress prevalent. These appeals are strong, and without question should be granted in so far as consistent with the duty which the members of the Board owe to their other constituents.

"The question of freight charges is one that directly concerns the pecuniary interests of every resident of the State.

"Every necessity or commodity of life used by the artisan or laborer, the farmer or producer, manufacturer or merchant, at some time is required to pay the cost of transportation, and this in some shape must be added to its cost, and is eventually paid by the consumer.

"The merchants of San Francisco and of the interior of the State in their dealings with the Southern Pacific Company are required to pay out millions of dollars annually in freight charges. The cry of poverty and hard times urged on behalf of the grain-raiser applies equally to them. In their present depressed financial condition they require all the help that can be extended to them, and no reason can exist why they, in common with the farmer, should not be given their proportionate benefit of any reduction which can be reasonably made in freight rates. Again, the farmers of the State are not all grain-growers; the products of agriculture are diversified, and are all subject to freight charges—their hay, fruit, vegetables, live stock, poultry, wool, and other products must reach market; but no relief is afforded them by the resolution before the Board. All the farmers of the State are equally benefited by the reduction of freight charges on articles other than their products. Their agricultural implements, bagging, boxes, cooperage, fencing materials, and supplies, fertilizers, harness and saddlery, articles of iron and steel, machines and machinery, articles of hardware, all articles necessary for the conduct of their industries; boots, shoes, hats, clothing, dry goods, furniture, and innumerable other articles absolutely essential to the existence of themselves and families, at present bear excessive charges of freight. The relief afforded to the merchants by its reduction, all turn eventually to the consumers' benefit in a corresponding reduction in price of the commodity.

"Like considerations apply to every other consumer in the State. The equitable rule is to benefit each in his proper proportion.

"These are the considerations which have prompted me in the distribution of this reduction as hereinafter recommended.

"Since the first day of January, 1894, the freight of the State has been handled by the carriers under the system known as the Western Classification. This system is that now used by every railroad of any importance west of Chicago and St. Louis. It divides the freight traffic of the country into ten classes—Classes 1, 2, 3, 4 are principally for less than carload quantities of freight; Classes 5, A, B, C, D, E are for carloads only. It undertakes to specify and provide an appropriate class rating for each article that is generally known in the various lines of production, manufacture, and trade. In addition to this classification in this State, many principal articles of shipment, such as grain, flour, lumber, coal, etc., are arranged under what are called special commodity tariff. For each class of the Western Classification and for each special commodity a rate is now established.

"During this investigation I endeavored to ascertain the amount of revenue received from each of these classes and special commodities in the State of California by the Railroad Company, but for some reason was unable to secure the desired information. In order to properly adjust the reduction I propose making, this information is of great importance. Having ascertained the amount of revenue derived from each of these classes and commodities, and the total revenue for 1894, it will be a comparatively easy task to distribute the reduction among them.

"It must be realized by all that the work of preparing such a revised tariff, so as to put the same in operation, is a task of considerable magnitude, and my belief is, that in order to have the same in operation by January 1, 1896, it will require almost daily sessions of this Board until then.

"In fixing of rates on the Southern Pacific Company's lines, no system dependent upon any fixed plan seems to have been followed. As a necessary result of this, innu-

merable discriminations exist in rates between different points in the State for the transportation of freight equal distances. As I stated at the commencement of and during this investigation, I believe the reformation of this to be the first essential point to be remedied toward a reduction in freight rates, and my desire is to have this Commission proceed to the immediate consideration of this subject and correct these abuses at once. This can be done in connection with our work on the general schedule, and the corrected rate in these instances can take effect immediately.

"I am aware that in freight traffic there are certain products and commodities which, from their nature, require to be moved at certain seasons of the year, and that such time of movement will be between now and the first day of January, 1896. If satisfactory to the other members of this Commission, I am prepared to make exceptions in favor of such commodities, and proceed as soon as necessary to give them a reduction in a sum approximating that to which they will be finally entitled by revision of the freight rates as herein explained.

"The adoption of a distance tariff would greatly simplify the adjustment of rates and do away with many irregularities attendant upon the present system.

"During our investigation some objection was urged against any reduction of the rates of this company, on the ground that if a reduction was made, wages of the employes would be proportionately affected. As a member of the Commission I desire to record my protest against the company making any reduction of the wages of the employes by reason of any acts of this Board in attempting to adjust rates. In making the reduction proposed by me, I have allowed to the company sufficient margin to pay labor its fair market price, which to-day is as high, if not higher, than that now paid by the company. This reduction is not to come from the labor fund, but from the source which has enabled the payment of interest on fictitious debts of the roads.

"I have further determined at this time to waive my objections to a horizontal cut in the amended grain tariff rates, prior to the adjustment of discriminations therein; and am now willing to give to that tariff such reduction as I believe, taken in connection with the reductions already made in it, which went into force January 1, 1895, and the reduction in its rates necessarily attendant upon the adjustment of the discriminations therein contained, to be hereafter made, will give to this tariff the proportion of reduction to which it is reasonably entitled, upon the basis of 25% average reduction of all freight rates, in favor of which I have declared myself. After a careful consideration of all matters in connection with the subject, I have concluded that reduction of 8% on all grain rates of said tariff would be fair. If in the adjustment of the general average reduction of 25% I shall find that the grain tariff is proportionally entitled to a further reduction, I shall vote for the same in connection with the adoption of such general revised tariff.

"For the purpose of effecting the results herein set forth, I have prepared a substitute for the resolution introduced by the President of the Board, which I now offer.

"(Signed:) JAS. I. STANTON,  
Commissioner.

#### SUBSTITUTE TO RESOLUTION.

"COM'R STANTON. I will now ask the Secretary to read my substitute.

"(The Secretary then read Commissioner Stanton's proposed substitute for Commissioner La Rue's resolution, as follows:)

"*Resolved*, That the present rates of charges for the transportation of freights in California by the Southern Pacific Company and its leased lines, are unjust to the shippers of the State; therefore, be it

"*Resolved*, That the present rate of charges for the transportation of freights in California by the Southern Pacific Company and its leased lines be subjected to such an average reduction as, including all reductions made therein since December 1, 1894, shall equal an average reduction of 25% upon said rates as in existence on said December 1, 1894.

"That the manner of apportionment and of effecting said reduction shall be as follows:

"First—All discriminations in freight charges shall be so adjusted as to make rates uniform between different points of shipment similarly situated, in so far as circumstances will permit. Any reduction in rate made for this purpose shall be charged against the class to which the article or commodity belongs.

"Second—Each class of freight specified by the Western Classification, or for which a commodity tariff exists, shall be entitled to and receive its pro rata of said average 25% reduction, determined on the basis that the amount of revenue paid by it to the total amount of said reduction. Provided that the rate of freight in each class shall be first regulated so as to prevent discriminations in rates on classes or commodities, said pro rata shall be fixed by this Board.

"*Resolved*, That the Grain Tariff having been, since the first day of December, 1894, subjected to a reduction which, inclusive of the amount to be charged against it for discriminations and the percentage hereinafter allowed, will nearly or fully equal the proportion of such average reduction; therefore, be it

"*Resolved*, That the rates at present existing for the transportation of grain in California, by the Southern Pacific Company and its leased lines, as established by Grain



Tariff No. 2, and all subsequent amendments thereto, be and the same are hereby reduced 8%, and the Secretary of this Board is hereby directed forthwith to prepare for publication by this Board a schedule of rates in accordance herewith, and when so prepared the same shall be published at once and take effect as soon thereafter as allowed by law, and that on the adoption of the revised general freight tariff of said company herein provided for, any further per cent reduction due said Grain Tariff, as provided herein, shall be given;

*Resolved*, That this Board proceed at once to adopt a revised schedule of rates in accordance herewith, in order that the same may be in force on or before January 1, 1896; and be it further

*Resolved*, That if the necessities of the case so require, this Board will at once proceed to the ascertainment of the proportion of reduction due any commodity which, by reason of its nature, requires to be moved between now and the time herein fixed for the taking effect of said general reduction.

"COM'R STANTON. I move the adoption of that substitute.

"THE CHAIRMAN. You have heard the substitute offered by Commissioner Stanton.

"COM'R CLARK. I would like to state, Mr. Chairman, that the opinion I am filing here is simply on the adoption of the resolution before the Board. I have not gone outside of the resolution.

"THE CHAIRMAN. The original question before the Board is the resolution offered by myself. Dr. Stanton now moves as a substitute for the original resolution the paper just read.

"COM'R CLARK. I was going to say I confined my remarks simply to the resolution that was under investigation by this Court, and I have not gone outside of that. I have written up my opinion according to the evidence adduced, and I do not think that it is right or proper to put a substitute in for that resolution. I think that should be taken up and voted upon, and then, if that is voted down, all well and good; there can be another resolution brought in of any sort that either Commissioner may propose.

"THE CHAIRMAN. The resolution is at present before the Board, as well as the substitute; so any remarks you have to make pertinent to the resolution are in order.

"COM'R CLARK. I wish to have my opinion read.

#### COMMUNICATION OF COMMISSIONER CLARK.

"(The Secretary reads the opinion of Commissioner Clark, which is as follows:)

*"In the matter of the proposed reduction of grain rates, over the lines of the Southern Pacific Company in California, now at issue before this Board.*

"The resolution before this Board proposes a reduction in the grain rates of the Southern Pacific Company, a railroad corporation, doing business in this State, from 15% upon a portion of their road, designated in said resolution, and a further reduction of 20% upon other portions of their system in California, which is also specifically set forth in said resolution, and urges as a reason that the rates now charged on grain are exorbitant, excessive, and greater than the producer can afford to pay, and that the cost of transportation is greater than the traffic will bear.

"It will seem that an order so general, and at the same time so radical in the proposed reductions, requires careful consideration of the evidence, in order to arrive at an honest and equitable adjustment of the differences that may exist between the carrier and the shipper.

"In arriving at that conclusion all party platforms and pledges made by any member of this Commission should be cast aside, and whatever feeling there may be in this State against the Southern Pacific Company, justly or otherwise, cannot now be considered.

"The Constitution has conferred upon this Commission the power to fix the freight and passenger rates, and that when the rates are so adjusted, they shall be deemed to be *conclusively just and reasonable*.

"It follows that, in the making of a rate, great care should be exercised in arriving at a conclusion that would be deemed by the courts to be *just and reasonable*.



"The next question that presents itself is, What is a reasonable rate?

"Without attempting to lay down a rule for general guidance, I would say that it should be equitable, and the carrier allowed a fair remuneration for the services performed, and a reasonable margin for interest upon the principal, judiciously invested, and a reasonable sinking fund for emergencies that may arise in the economical operation of the road.

"To arrive, therefore, at a just conclusion as to what would be a just and equitable rate, it is necessary to examine into the actual condition of the company's affairs, as it now exists.

"I find from the testimony that the average bonded indebtedness of the lines operated by the Southern Pacific Company operated in California is about \$29,000 per mile of road. It would seem, when compared with other roads similarly situated throughout the United States, that the bonded indebtedness of the Southern Pacific Company compares favorably with those lines, and that the company is therefore warranted in taking into consideration the fixed charges upon the bonded indebtedness, such as interest, taxes, and providing for a sinking fund, as provided by law, for the purpose of adjusting a fair rate for services rendered.

"It is also shown from the uncontradicted testimony of Mr. Lansing, the Secretary and Comptroller of said company, and also by Mr. Curtis, the Assistant to the General Manager, that for a period of six months ending June 30, 1895, there was a deficit of over \$1,250,000 in the operation of the road, taking into consideration fixed charges, and when compared with the sworn statements of the earnings for the first six months for 1894 there is a marked falling off in the earnings of the road.

"This has been attributed to the depressed condition of the country financially, and in all probability likely to continue for some time to come.

"The passenger traffic has suffered also, and I find that for the first six months of this year the passenger revenue amounted to \$1,151,000, and for a like period last year to \$1,478,000, showing a decrease in through passenger earnings for the first six months of the present year of \$327,000, over the Pacific System.

"In the local earnings for the first six months of 1895, the passenger earnings amounted to \$3,317,000, and for the same period in 1894 the local passenger earnings were \$3,701,000, a decrease in the past six months of \$384,000.

"The total passenger earnings, through and local, for the first six months of 1895 amounted to \$4,468,000, and for 1894 to \$5,179,000 for a corresponding period, showing a decrease for the first six months of the present year of \$711,000 in passenger earnings, compared with 1894.

"In view of all the evidence, I am of opinion that the adoption of the proposed resolution, as a whole—a horizontal reduction, that would not adjudicate the discriminations that may now exist—would be a travesty upon justice, and unbecoming the act of a dignified and impartial judicial body sworn to do their honest duty; and I would never sanction an order that in my judgment the courts would not hold to be *conclusively just and reasonable*.

"In conclusion, while I am unable to support the resolution in its present form, I am in favor of making a reasonable reduction on the lines wherein inequalities and differences exist, and bring all the lines operated by the Southern Pacific Company, similarly situated, and for like distances, upon an equal basis.

"(Signed:) W. R. CLARK,  
"Commissioner Third District.

"THE CHAIRMAN. The question under consideration is the resolution introduced by myself, and the substitute offered by Commissioner Stanton. While I would be very much pleased to go to a vote direct upon the resolution, of course the substitute takes precedence, and, as there is much contained in that—while, I will state here, that in Commissioner Stanton's communication, or remarks we will term them, I generally agree with him, I think they are in the right line, but there is so much contained in his substitute that I am not prepared to vote upon that proposition at this time, and I should like to have a little time to consider it. As the Commissioner stated, when I introduced the resolution in the beginning it was a matter of importance, and he would like some time to consider it. It, of course, makes quite a change, and, with the important questions involved, I could not vote understandingly upon the resolution. I would like to look over it; I have not had the opportunity of seeing it before; it is all news to me, and I think I should be entitled to that consideration. While I am anxious to bring this question to a determination, and while the substitute does not offer as much as I would like, I am always willing if I cannot get a whole loaf to take

a half of one; but there are other considerations connected with it in reference to the reduction on other commodities, and I could not vote understandingly, and I do not want to put myself upon record without some preparation, and understanding myself as to how I vote: and I will ask as a matter of courtesy, if not of right, that I have that time to consider it.

"COM'R STANTON. I will say in reference to that, while the resolution contemplates nothing more or less than a 25% average reduction, it means that the company should get the credit of whatever reductions they have been making, whatever reductions have been made since we have come into office; but it means at the same time that all these discriminations which have existed should be regulated and adjusted, and the proper percentage of that reduction, or any certain sum, be allotted from their general revenue, which we might consider should be proportionate to that discrimination, and charged against that particular commodity. Of course, it has been urged that it will be necessary to take up the grain tariff immediately, and for that reason I am anxious to fix some change that I considered reasonable and fair, with the understanding that if during our investigations we should determine they were entitled to a greater amount, we should give them what they were entitled to. If it was found we had given them too much, we should regulate the rate so the commodity should have the benefit. That was my idea in presenting the resolution. Now, as to the time. Of course I am anxious, as well as yourself, to see the matter come to some conclusion. I am anxious to regulate these rates as soon as possible, and to determine just exactly what proportion of reduction we can give to the different classifications; so I think the sooner we take up the matter the better. You have heard all the testimony I have heard in this matter; you are as competent to vote upon it as I am at the present time.

"THE CHAIRMAN. I am ready to vote upon the general proposition, but, of course, in the amendment other things are contained, and I will say this, that so far as correcting the discriminations is concerned, I am ready to sit down and go through this generally, and where there are discriminations correct them, and if any resolution should be adopted, or any other assessment should be adopted, I am free to state here that if in our investigations we should find that rates have been fixed at too high a rate, I would be willing to reduce them, and vice versa. My object is to do what is right; but there is considerable contained in that resolution rather foreign to the resolution before the Board, and I only ask time that I may look into it, and familiarize myself with it—simply that I may act understandingly.

"COM'R CLARK. I would like to say in connection with the substitute: My idea was that your resolution was the only thing before the Board, and that was the only thing under investigation. Of course, while I am not objecting to it, as long as you have ruled on it, my idea was that Dr. Stanton's communication went outside of the investigation of the grain tariff, and that the only thing before the Board was your resolution.

"THE CHAIRMAN. I am inclined to think that the substitute is a proper one; but it contains so much that from the bare reading of it I would not want to make a positive ruling on it. I was of the opinion that it was pertinent to the question. But before I am called upon to



vote upon it I would like to have a better understanding of it. Of course, just from hearing it read here no man in the house can tell all that it contains, though he may have a general idea.

"COM'R CLARK. I feel the same way. I would favor some reductions, which I have stated, and I have placed myself on record to that effect. I also would like time to investigate it, and I do not think Commissioner Stanton will urge his substitute without giving us a few days' time to examine the matter.

"THE CHAIRMAN. I am willing to go through the whole schedule and correct any discriminations we may find, and to devote day after day to it, or such time as is necessary, until we accomplish something and arrive at some determination.

"COM'R STANTON. We have been for the past three weeks investigating this matter, and we have as much information on all the rates and upon the finances of the company as we will ever have, in all probability.

"THE CHAIRMAN. I do not want any more testimony, because I think we have covered the whole ground. That has been the intention of the company—to make a showing of the condition generally relative to the rates and fares.

"COM'R STANTON. Of course, there is only one proposition embraced in this resolution that I offer, and that is the average reduction of 25%, and on top of that you might say, or in connection with it, is the reduction which it was proposed to give immediately to grain. Now, I have substituted the amount of 8%, for the reason that I thought that was something we could say fairly could be applied as a horizontal reduction; and if there are places in the different valleys that need 10% or 12% or 15%, we can make that reduction; but, preserving that spirit of equality, we can charge that against the amount they are entitled to as a reduction. The figures exceed \$200,000, as Mr. Smurr gave them, and represent, I believe, 26% of a reduction. I think that is about the amount, the best I can remember at present. But the amount I propose is not equal to that, for the reason that grain has a certain percentage of reduction that it was properly entitled to on account of excess of rates, and there are a great many excessive rates that should be adjusted now, and rates which I consider unjust and unreasonable, so far as these discriminations are concerned, and that was my idea in presenting the horizontal reduction of 8% at present. It will not restore the equality of the situation, but it will give the temporary relief they have been asking for.

"THE CHAIRMAN. As I stated the other day, I offered my resolution as a basis to work upon. It might not be enough; it might be too much. I am not contending for any specified amount as contained in these resolutions. It is a matter that should be properly considered by the Board and acted upon with that degree of fairness the subject entitles it to; but your resolution is very broad, and I am not prepared to act upon it without further consideration. I want to read it. I want to digest it, and what I do I want to do conscientiously. I would not insist upon hurrying anybody to a vote upon a proposition until they were ready. I might, after looking into it, favor it, and might not; I cannot say.

"COM'R STANTON. Of course, I recognize the rights of the other members of the Commission, but I would prefer to have the matter settled to-day.



"THE CHAIRMAN. You are familiar with that substitute. You have drawn it and presented it—just as I thought I was familiar with the other proposition, but I was perfectly willing and anxious that the other members of the Commission should have ample time to consider it, when you asked for time—and whether you had asked or not, that would have been my proposition; and the gentlemen on the other side were anxious to be heard, and we granted them that time. Now a new proposition comes in as a substitute for the whole, and I should certainly ask and insist upon the necessary time to consider it.

"MR. MARTIN. Would it be in order for me to ask the Commission for a copy of that resolution?

"THE CHAIRMAN. There is nothing to prevent you asking it, that I know of.

"COM'R STANTON. I see no reason why Mr. Martin should not be granted a copy of the resolution.

"THE CHAIRMAN. The proceedings of the Board are public, and everything belongs to the public.

"MR. MARTIN. As stated by Commissioner Stanton, our investigation has been very broad, and we do not at the present time desire to make any further showing in the way of additional testimony; but if the resolution should be extended so as to consider other matters, I suppose you would have no objection to having the traffic men of the road consult with the Board.

"THE CHAIRMAN. There is no objection to that. This is a public Board. We desire to hear everybody and anybody; we are not afraid to consult with you.

"COM'R CLARK. Thursday will give me ample time.

"THE CHAIRMAN. That will do me. I will make it a point. I have not filed any argument or statement, I think I have occupied the attention of this Board a great deal of the time, and I imagine the gentlemen thoroughly understand my position; consequently I have no remarks to make upon the subject at present.

"COM'R STANTON. The proposition is simply to allot the proportion of reduction, if we are going to have any reduction upon the freight earnings of this company—a certain percentage of that proportion to the different classifications and the different special commodities, and arrange it so that each classification will have the percentage it is really entitled to. It does not seem to me a very difficult task to determine that, when we have once the figures upon the earnings of those different classifications. We cannot formulate a schedule at present upon anything we have, with the exception of the grain tariff. That resolution at the present time provides for an 8% reduction upon grain, and I shall insist upon a vote upon that resolution.

"THE CHAIRMAN. Do you propose in that resolution to make it 8% after correcting the discriminations?

"COM'R STANTON. We formulate the schedule and at the same time, where discriminations exist, we adjust them.

"THE CHAIRMAN. To compare with the others?

"COM'R STANTON. To compare with the others. My object in having that inserted into the resolution was that we could take immediate action upon the resolution and give the proper percentage of reduction right away, and pass upon it, and for that reason I will insist upon a vote.

"THE CHAIRMAN. There is so much included in the substitute that I would like time to vote upon it, and I shall ask that, and will make a motion——

"COM'R CLARK. I will make a motion that the substitute of Dr. Stanton be laid over until next Thursday.

"THE CHAIRMAN. That is, the whole subject-matter?

"COM'R CLARK. The whole subject-matter, until 1 o'clock P. M. of that day.

"(Motion carried and adjournment had to September 12, 1895, at 1 P. M.)

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"SAN FRANCISCO, September 12, 1895.

"PROCEEDINGS OF THE BOARD OF RAILROAD COMMISSIONERS OF THE  
STATE OF CALIFORNIA.

"The Board met pursuant to adjournment.

"Present: Commissioners La Rue, Stanton, and Clark.

"THE CHAIRMAN. The question for consideration is the resolution introduced by myself, and the amendment offered by Mr. Stanton. Are you ready for the question?

RESOLUTION OF COMMISSIONER CLARK.

"COM'R CLARK. Mr. Chairman, I have a resolution here that I offer as a substitute for all resolutions on the subject-matter of grain.

"(Resolution read, as follows:)

"*Resolved*, That the grain rates now existing over the Southern Pacific Company's lines in California, as established by Grain Tariff No. 2 and subsequent amendments thereto, be and the same are hereby reduced an average of 10%, and from Sacramento, San Joaquin, and Salinas valleys, and other points similarly situated, and for like distances, be made uniform to points of destination, and the Secretary of this Board is hereby directed to prepare a schedule of rates in accordance herewith, serve a copy of the same on the railroad company affected thereby, and to take effect as soon as required by law.

"W. R. CLARK,  
"Commissioner Third District.

"COM'R CLARK. I wish to state in regard to grain rates that I have given the subject-matter my careful attention. As well as my colleagues, I feel that we should give the farmers some relief, if possible. I have examined various points throughout the State, to try to prepare a tariff that would be equal and just, and that would do away with the various discriminations which I think exist. Of course, I have always been opposed to a horizontal reduction, on that ground. I think an average reduction of 10% will be a fair reduction, and give considerable relief to the farmers. In taking up the horizontal reduction we are doing something, Mr. Chairman, that the Constitution forbids us doing, something that conflicts with the opinion of our legal adviser, the Attorney-General. Take, for instance, the rate in the Salinas Valley to San Luis Obispo. If we make a horizontal reduction, it affects that low rate at San Luis Obispo, and therefore, if this Commission fixes that rate, we fix the discriminations ourselves. I think, that in fixing that rate that it will be one that will stand, if it should come before the courts. Therefore, I

favor a reduction of the Salinas rates, which, the way I figure them, are 15% or 20% higher than in the San Joaquin Valley. I cannot see any reason why they should be any more than they are in the San Joaquin Valley.

"THE CHAIRMAN. It seems that the resolution is very indefinite and not to the point, as a substitute. Of course, if it should be adopted, it is then open to amendment. Substitutes differ in that respect from an amendment—or it could be treated as an amendment to an amendment.

"COM'R CLARK. I have offered it, Mr. Chairman, as a substitute.

"THE CHAIRMAN. The question is upon the adoption of the substitution offered by Mr. Clark.

"COM'R STANTON. That means an average reduction of 10% upon existing rates. It means, of course, that we should take up, probably, the discriminations. That will necessitate a great deal of time and a great deal of calculation. The substitute which I had proposed was a horizontal reduction of 8%, and included also the discriminations which already existed. We allow grain a certain proportion of the reduction. I make a horizontal reduction of 8%, and in addition to that we also take up the subject of discriminations. But we make the immediate reduction of 8%, and then we give grain that which this Commission thinks it is entitled to, which may be 20%, and may eventually reach 25%, it being one of the chief articles transported. On account of its importance we will afterward determine positively what reduction we will give it. In addition to that we subsequently give to the grain-shipper the benefit of further reduction. As Mr. Clark said, there are places in the Salinas Valley which would be entitled to greater reduction. There are places now on the lines where a 20% reduction would be proper.

"THE CHAIRMAN. No question about that.

"COM'R STANTON. I don't agree with the Chairman at all on that subject. We submit them all to an 8% reduction at the present time, and afterward further reductions may be required to adjust the discriminations. I think that will accomplish everything that is expected of us.

"COM'R CLARK. Mr. Chairman, if we adopt the horizontal reduction, the way that I look at it, we immediately fix the rates on discriminations that exist to-day, and it is strictly in violation of the law, as the Attorney-General instructs us. He says the language is plain, and it positively prohibits all discrimination between places and persons.

"THE CHAIRMAN. We propose to correct those.

"COM'R CLARK. That is my idea in making the average rate. I think there would be great trouble to correct the discriminations.

"COM'R STANTON. In reference to that subject, I would say that as far as the discriminations at various points exist—and I have great respect for Attorney-General Fitzgerald—I consider his opinion applies to rates fixed from competitive points, and I may say, no matter what rate we establish, as long as it is a fair and reasonable rate and is published as the official rate adopted by this Commission, that we cannot prevent the railroad from lowering that rate. The rate we establish is the maximum rate. I think if the matter was laid before the Attorney-General in that light, probably he might consider it from that point of view; because, otherwise, we would be constantly adjusting and publishing new rates and new amendments as the railroad lowered the rates at any particular point. If we should establish a maximum charge at any



particular point, and what is reasonable, then, if the railroad company sees fit to conduct their business at a lower rate than what we established, who would receive the benefit of it? We take away all the natural advantages of that competitive point. The question of competition is recognized by all boards or commissions that have the power to regulate rates. In justice to the people living at these competitive points, if these rates are to be fixed permanently and the railroad company cannot lower those rates, then I think we would do away with a great deal of the natural advantages at those points.

"THE CHAIRMAN. The La Rue resolution fixes an average rate, as has been explained, and Mr. Stanton offers an amendment to that. While the substitute is in order, I am not in favor of it. When the resolution comes up for consideration, such amendments can be made so as to make the rates fair and just as to discriminations, etc. The question is, What disposition shall we make of the substitute as offered by Commissioner Clark?

"COM'R CLARK. Question.

"THE CHAIRMAN. Those in favor of the adoption of the substitute will say aye; those opposed, no.

"(The vote was put, Commissioner Clark answering aye, Commissioners Stanton and La Rue, no.)

"THE CHAIRMAN. The substitute is lost.

"COM'R STANTON. I will say in reference to the substitute I have offered, and which I believe is before the Board at the present time, that my idea is to give to each commodity the proportion of the reduction which I really think it is entitled to approximately. The average reduction means this: It means that some rates may be affected 20%, other rates may be affected only 10% or 12%. I am in favor of making the rate 8% at the present time, for the reason that we only know approximately what the earnings of the Railroad Company are on some of the commodities, and if we are to go on and take up from day to day the different commodities, numbering thousands, and making computations on each of these, a certain percentage of reduction, that could go on indefinitely and no issue be reached, and at the end of our term we would be in the same position that only a few commodities would be settled; so, for that reason, I have offered this substitute, making an average reduction and approximating what I consider to be a fair reduction, and I propose to make it 8%, and reserve whatever further reduction we may deem necessary for the purpose of adjusting discriminations. I think in that way we would not affect any rate which is reasonable and just. Take the rate from Brentwood to Port Costa. At the present time there is a rate of 35 cents for 31 miles. If we submit that to a reduction of 15% it might bring the rate below what is just and reasonable. I think that a reduction of 8% would not. I think it would be fair to the shipper and give considerable relief. We give that 8% reduction now and then, we give grain what it is really entitled to, and other classes of merchandise. Only a few weeks ago we heard about certain merchants in the town here asking relief from freight charges made on the peculiar commodities which they ship, and they are entitled to some consideration. If grain is entitled to a reduction of more than 8%, when the time comes I am willing to give it what it is entitled to. I am satisfied in my mind, without any doubt, that they are entitled to a reduction of 8% at

the present time, and to the benefit of an adjustment of these discriminations.

"THE CHAIRMAN. In reference to the question now before us, I was in hopes, after our adjournment, that my worthy colleague would consider the matter and withdraw his amendment, and we might act directly on the original resolution. As I have stated before, time and again, it is a question of great importance. After the hearing of all the testimony and getting what information we could upon the question, I am more firmly of the belief than I was at the beginning that the rates named in my resolution are correct. The prosperity of the State of California depends upon our agricultural productions, and unless the producers, unless those who cultivate the soil—I do not speak of grain-growers alone, because all are interested in the transportation question—receive some relief, the condition of the country will become very serious. I say all the producers of the State and of the country are dependent upon transportation, and as I have stated at other times, the condition of the country is frightful, especially among the grain-growers. Sixty days ago it looked as if we would have good crops; but things have changed, and we have only half a crop. Many of the farmers are penniless, and while they have some grain to ship, the little that we might save in reducing freight charges would be of great advantage to them. My colleague from the southern part of the State understands these matters. He comes from a district that comprises the largest number of grain-growers, and a part of the State where the largest number of acres are cultivated. In that location they have suffered for three years; two years ago the crop was not a heavy one; last year it was almost a failure, and this year it is less than one half a crop. They are looking to this Board for some help in the matter of reduction of rates. It also applies to all of us, and I feel just as much interested in the shippers of San Francisco as in the shippers of grain. I believe that this matter should engage our serious and earnest attention, and that as soon as we dispose of one commodity we should carefully scan the rates on other commodities, and do justice to all. We should also bear in mind that the railroad companies have their interests, which need to be looked after, and I believe that it is the intention of this Commission to deal fairly in all our work in this Commission. We are representatives of the people, and not of one class alone. I believe, as I said before, that the rates named in my resolution are fair and just and reasonable. When I take into consideration the freight carried in this State by the Southern Pacific system, that about one fourth is grain produced by the farmer, and that in all their earnings one sixth of the whole is received as freight from the shipping of grain, I consider that a reduction of rate on this one commodity is a question of great importance to the State, and also of importance to the railroad company, for unless the producers can get their produce to market they will cease to produce, and without something to haul the railroad will be of no use. Of course, this state of facts will not arise, for people must live, and the soil must be tilled. But the people should have a right to earn a reasonable compensation, just as much so as the transportation companies should. After listening to all the testimony and considering the case fairly, as I said before, I feel that the amounts named in my resolution are not unfair or unjust, and I was in hopes that my colleagues would see their way clear to sup-

port them. It seems that they think differently upon this proposition. They may be correct and I may be in fault, but the question is before the Board of the adoption of the amendment proposed by Commissioner Stanton. I would like to offer an amendment, and I move that we strike out the word 'eight' and insert the word 'fourteen.' I will offer that as an amendment to an amendment. Are you ready for the question?

"COM'R STANTON. I will say, in reference to the remarks of the Chairman, that I agree perfectly with him that the grain-growers are entitled to their percentage of reduction, and the others in other products also. But if we are going along in this line of rates, making a reduction of 14%, 20%, 25% upon different classes, we will reach a point where there will be no further reductions to be given to any of the other commodities. I claim that the proper way to do this is as I have set forth in my substitute. I agree that many of the stations you have named should be subjected to a 20% reduction, and I would have voted to reduce these rates that per cent, in some of the stations named around the Sacramento Valley. But by adopting a horizontal reduction of 8% we still have enough left for the purpose of allotting a reduction of rates on other classes. I am in favor of giving grain what it is entitled to. I am satisfied it is entitled to 8% at the present time, and that the schedule should be published at once. Then we can give whatever further reduction we think it is entitled to, as the matter is investigated by this Commission. But for immediate relief, I am in favor of publishing a schedule upon an 8% reduction.

"THE CHAIRMAN. The question is upon the adoption of the amendment to the amendment, striking out 'eight' and inserting 'fourteen.' Those in favor of the adoption of the amendment will answer aye, and those opposed, no.

"(The motion was put and lost.)

"THE CHAIRMAN. I will now move to strike out the word 'eight' and make it 'thirteen.' I hope the gentlemen will see their way clear to make it thirteen. I believe the article is entitled to it. If it is not, I am willing to take up any commodity that is and fix the rate as it should be, and then go through the general classification and try to arrange the whole matter satisfactorily. The question is upon the adoption of the amendment to the amendment.

"COM'R STANTON. I will state in reference to that also, it might be reduced to twelve, eleven, ten, nine, right along through the different amendments, taking up the time of the Commission. I want to give grain what it is entitled to, and if it is entitled to 25%, I am in favor of giving it. At the present time I see my way clear, with the reductions which have already been made upon it, amounting to 10% or 11%, to give an additional 8%, making it 19%, and reserving 5% or 6% for the purpose of adjusting those discriminations to which our attention has been directed.

"THE CHAIRMAN. The resolution, as I understand, provides for an average reduction of 25% upon the most important factor to be considered. If your resolution is adopted, with the reduction already made, it amounts to about 19%. What is the per cent, Mr. Smurr?

"MR. SMURR. The figures are before you.

"THE CHAIRMAN. About 11%, I think, making 19%. As I said before, I would like to offer this resolution. Probably Mr. Clark and the Doctor may consider that they could stand a little more than 8%.



"COM'R STANTON. I believe it was the testimony of the experts of the Railroad Company that your resolution amounted to 26.1%.

"THE CHAIRMAN. Taking into consideration the reductions made in Grain Tariff No. 2, it would make about 26%.

"COM'R STANTON. It would represent about \$144,000. That is the present reduction which I am willing to give, granting in addition an adjustment of these discriminations on a basis of what is fair and reasonable and right, and placing all on an equal footing. I think you will find that the additional 6% or 7%, which would be included in the resolution which I have myself amended to 14%—you will find that by adding that 6%, which we can use in adjusting discriminations, it would be just the same thing. It will be a better way of accomplishing it, to my mind.

"THE CHAIRMAN. I do not wish to be considered captious, or anything of that sort, but I am acting conscientiously in this matter, as I will concede the other members of the Commission are, and when I offered the resolution it was in good faith, and I am as anxious to get as near to that as I can; if I can't get 14% now, I would like to get 13%. The question is upon the adoption of the amendment, striking out the word 'eight' and inserting the word 'thirteen.' Those in favor of the amendment will say aye, those opposed, no.

"(The motion was put and lost.)

"(Successive motions that the per cent be 12, 11, 10, and 9, were put and lost, the vote being the same to each.)

"THE CHAIRMAN. The question now is upon the adoption of Dr. Stanton's amendment to the resolution.

"COM'R CLARK. As I have stated, I have been opposed to that amount of reduction. I have stated that I could not vote for your 15% reduction, because I thought it was too much. The way we figured the matter, and we went over everything carefully, I thought an average reduction, would be fair and reasonable. That in some places it should be reduced, maybe to 25%, and in some places there should be no reduction at all. Of course, I am still opposed to the horizontal reduction, and to the 8% offered by Commissioner Stanton. Of course, that does not cut so much of a figure in the horizontal reduction as 15%. I am in favor of a fair reduction, and I think the rates should be lowered.

"THE CHAIRMAN. I favor a general reduction, as I have stated here before, for the reason that the Railroad Company has been at work for twenty years—in fact, ever since it has been in existence. It has made all these classifications and taken into consideration all the facts entering into the subject. They have adjusted pretty generally, especially on all their trunk lines, and from their knowledge they have adjusted these rates corresponding to the circumstances, probably about as fair as we, who are strangers to the business, could make them, so I have been in favor of a general reduction along the line, believing that it would take less time, and it could do better handled in that way.

"COM'R CLARK. We are simply to vote on the grain rates?

"THE CHAIRMAN. On the whole resolution.

"COM'R CLARK. I understood the other day there was to be a division on the question. I would like to have a division. I move to make a division of that question. I would like to vote on the grain separately.

"THE CHAIRMAN. What is your motion?

"COM'R CLARK. That there be a division of the question, and that we take up the grain rate.

"COM'R STANTON. My substitute contains simply one proposition. It means an average reduction of 25% upon all rates at the present time existing on the Southern Pacific system in California. I include in that the reduction on grain. I consider that if we sit here day after day in this investigation that we will get just about the same information that has already been furnished by the company, and I have approximated as closely as possible in my own mind what would be a proper percentage of reduction which we should allot to grain. I have included the grain rates under the general resolution which I have offered as a substitute, and for that reason I am opposed to any division of the question. If this Commission decided there should be a reduction of 25% on these rates—and I think grain should be entitled to a certain percentage on that reduction—if it is 25%, or if it is 30%, I am willing to vote upon it. At the present time I feel certain that there should be given immediate relief to the extent provided for in my substitute.

"COM'R CLARK. It seems to me that Dr. Stanton's resolution is just as indefinite as mine. It did not specify a horizontal reduction. Of course, if his grain rate is an 8% horizontal reduction, and in the other it is an average reduction, that is indefinite, the same as my resolution. I would like a division of the question. I would like to vote for a reduction on the grain rate, but I cannot for the other.

"THE CHAIRMAN. The amendment is open to amendment.

"COM'R CLARK. But I have amended it by a division of the question.

"THE CHAIRMAN. That is not an amendment. I do not suppose there would be any objection to vote upon it separately.

"COM'R STANTON. I am in favor of taking up the original resolution, just as it stands.

"COM'R CLARK. I make an amendment to it. I move that there be a division of the question, and that the 8% reduction for grain be voted on first.

"THE CHAIRMAN. I think it is a question that is divisible.

"COM'R CLARK. I want to know when I vote for a reduction what I am voting on. I do not propose to vote on any resolution of that kind. I want to know what I am voting on.

"THE CHAIRMAN. It is that the question be divided, and that a vote be taken upon the adoption of that portion of the resolution relating to the fixing of the rate at 8%.

"COM'R STANTON. What is your motion, Mr. Clark?

"COM'R CLARK. I move to amend it, and to vote on the question that grain be reduced 8%.

"THE CHAIRMAN. That is the motion now.

"COM'R CLARK. That is the division I want. I want that part voted on first. I call for a division of the question.

"THE CHAIRMAN. Mr. Clark moves for a division of the question, of that portion calling for a reduction of 8% on grain. The question will be upon the adoption of that resolution.

"COM'R STANTON. Then I understand you to rule that the resolution at present before this Commission is my substitute which is offered for yours.

"THE CHAIRMAN. It is divisible. There are two subjects contained in it—one to make an immediate reduction of 8%, and the other is an average reduction of 25% upon all commodities.

"COM'R STANTON. I think there is but one subject in the resolution, and that it includes all freight rates. We have dealt to a certain extent in our investigations with grain rates, and have discussed wine-grapes and other commodities, but when we came to the financial department of the railroad system, when we come to discuss the question of bonds and the other issues, there the scope of inquiry broadened, and we took up not only the question of grain rates, but we took up the relative position which these rates had to other commodities, and for that reason I introduced this resolution as a substitute, affecting all the different rates of the Southern Pacific system. My provision, including at the present time the 8% reduction upon the grain, was for the purpose of giving immediate relief, which it had been urged we should take immediate action upon. I state now, and have stated before, that I am ready at any time, if it should be shown that they are entitled to further reduction, to give grain a further percentage of reduction. I do not see how that resolution can be divided, and how we can take up one part of the resolution at a time.

"THE CHAIRMAN. You do not understand me, probably. The amendment is open for consideration now. It can be amended in any particular before it is adopted, but after it is adopted you cannot do so. Mr. Clark can offer to strike out any part of it, or to insert any other words. He can do it under parliamentary usage. I have an amendment I wish to offer here, that does not affect the matter at all, except the wording of the resolution. The resolution as it stands reads: 'Resolved, That the Board proceed at once to adopt and revise rates in accordance herewith.' I move to strike out the first part of the paragraph down to the word 'rates,' and make it read thus: 'Resolved, That the Board proceed at its earliest convenience to adopt and revise rates.' It is a little different wording. That amendment or any other amendment would be proper. Mr. Clark is in favor of one part of the resolution, I infer, but he is not in favor of the other part, and to vote upon each separately gives him a chance to put himself upon record.

"COM'R STANTON. Is this the proposition before the Board at the present time, that the rates should be subjected to an average reduction of 25%?

"THE CHAIRMAN. There are really two questions, as I understand it, before the Board. Mr. Clark may want to vote for the 25% average reduction, and not want to vote for the 8%, or vice versa.

"COM'R CLARK. When this investigation commenced, Mr. Chairman, I was in favor of taking up the other commodities. On that I was voted down. Now, I want to vote on the commodity that we have under investigation, and that commodity is grain. That is the reason why I want to divide this question.

"THE CHAIRMAN. I think that the question is divisible; that a member has a right to vote upon either proposition. I consider there are two distinct propositions in the resolution.

"COM'R STANTON. I have no intention of showing any discourtesy to any member of this Commission or to Commissioner La Rue, but it was my idea in presenting the resolution, and for no other purpose, to bring this question properly before this Commission.

"THE CHAIRMAN. As I said before, Mr. Clark might want to vote for one part and not for the other; he might feel compelled to vote against the average reduction—I don't know what his intentions are or how he



will vote—but I do not think it would be improper to divide the question and vote separately upon it.

"COM'R CLARK. I call for the question of 8% reduction on grain.

"THE CHAIRMAN. Those in favor of the adoption of that portion of the amendment offered by Commissioner Stanton, relating to the reduction of the rate on grain, fixing it at 8%, will answer aye as their names are called, and those not in favor will answer no.

"COM'R STANTON. Do you mean to vote upon this as a separate matter? Are we to vote upon Mr. Clark's motion, or upon the proposition contained in the resolution—that is, which includes Mr. Clark's amendment?

"THE CHAIRMAN. Mr. Clark can explain himself. He asks for a division of the question, and a vote upon it separately. I think the question is divisible.

"COM'R CLARK. I think there are two questions in that.

"COM'R STANTON. Which question do you want brought up first?

"THE CHAIRMAN. We will try to get a motion as to which one should be brought up first.

"COM'R STANTON. I ask for a ruling upon the subject. Then we can proceed according to the ruling.

"THE CHAIRMAN. The Chair rules that the question is divisible. Now, then, that makes two questions. Now, Mr. Clark moves that we first consider the first part of the resolution.

"COM'R STANTON. As a matter of course we will consider it first. The proposition is a fair one. We have already considered that amendment—I mean, making a reduction of 8%, but there is no further amendment made, as I understand it, to that amendment.

#### GRAIN RATE ADOPTED.

"THE CHAIRMAN. It does not change that at all. The motion will now be upon the adoption of that proposition. Those in favor of that portion of the amendment will signify by answering aye, those opposed, no.

"(Carried.)

"THE CHAIRMAN. I would like to offer that amendment I mentioned.

"COM'R STANTON. What is that?

"THE CHAIRMAN. To change that part of the resolution that provides that the Board shall proceed 'at once to adopt and revise the rates,' and in place thereof to insert 'shall proceed at its earliest convenience.'

"COM'R STANTON. Of course, immediately or at our earliest convenience.

"THE CHAIRMAN. We get together and adopt a schedule at our earliest convenience.

"COM'R STANTON. I am ready, for my part, to go on at any time.

"THE CHAIRMAN. I want to get it in a little better shape. 'That the Board proceed at its earliest convenience to formulate, adopt, and revise the schedule of rates.' It does not alter it in any particular.

"COM'R CLARK. I am satisfied. I have no objections.

"THE CHAIRMAN. The question is upon the adoption of the amendment by myself. Those in favor of the adoption of the amendment will say, aye, those opposed, no.

"(All voted aye, and the Chairman declared the motion carried.)

"COM'R CLARK. I would like to ask Commissioner Stanton, if, in his resolution 'on all commodities' implies that there shall be an average reduction made on all commodities.

"COM'R STANTON. I might explain myself to the Commission in this way: That there are rates, even in grain traffic, which, in my mind, should be submitted to a proper reduction, but it affects the revenue and earnings of the company. Now, if we decide upon a reduction, that reduction amounts to a certain specific sum, as in the case of grain rates, which would be, say, \$150,000 to \$200,000. It may be less or may be more, and it is our duty to determine what the special sum is that should be allotted to that commodity, and not overlook that which should be distributed to other classes of freight. If we find rates are reasonable, then that distribution can be applied to that place where the rate is unreasonable. If we find, for instance, or some of the members of the Commission may be informed, that there are certain rates which would demand a greater reduction than 25% or 30% in certain places, in that case I am in favor of reducing the rates to a proper amount and giving them their proper percentage of the reduction. That affects, of course, the revenues which the company receives. Of course, we will have to get the total. We have figures showing the tonnage of the different commodities, but not on the different classifications. We have the general merchandise—we have stone, cement, and a great many other things that may be included under a special commodity traffic. If the rates are fair and it can be demonstrated that they are fair, then it would be unjust to change them; but if unfair, it is our duty to reduce the rates to the proper standard and establish that rate and publish it. That is one of the duties of this Commission.

"COM'R CLARK. In going over these rates, if I come to the conclusion that the rates are just and reasonable, of course I want to fix them at that. I do not want to vote upon the general proposition of the 25% reduction. I don't know whether there can be one made.

"THE CHAIRMAN. You mean, Doctor, in your resolution, that when reductions are made they shall amount on an average to 25%?

"COM'R STANTON. If you take one class, for instance, and say there is a \$40 or \$50 rate on it, and say there was a certain sum allotted to that certain classification, as the proper share of its reduction, and it was agreed upon by this Commission, then the rates which had been unjustly discriminated would be submitted, first, to the action of the Commission, and reduced accordingly; then further reduction would depend upon the action of this Commission entirely.

"COM'R CLARK. To a further reduction than 25%?

"COM'R STANTON. If it is found that these discriminations before adjustment would not give to that special classification the precaution of the allotment agreed upon by this Commission, then the action of this Commission would determine the rates which should be adopted.

"COM'R CLARK. Say the total revenue is \$16,000,000 per annum. It is your intention to lower that 25%, which would leave the revenue \$12,000,000. It is your intention to take 25% from the \$16,000,000?

"COM'R STANTON. Yes.

"COM'R CLARK. And distribute that 25% equally among places, or anywhere you consider there is discrimination?

"COM'R STANTON. This Commission determined that the reduction of grain previous to the adoption of Grain Tariff No. 2—or after the

adoption, rather—amounted to \$230,000, I believe. Now, in addition, we have to give a further reduction of about \$145,000 in round figures. Now, it is upon that statement that we should act equally upon the different commodities.

“COM’R CLARK. It seems to me that that resolution is unreasonable, in this way: If we are going to work on traffic sheets, let us prepare to bring them in here, and vote on them. I do not want to vote for a 25% average reduction, and then go to work and find out all the amounts that should go to the different commodities. If we think they should be cut down, prepare our traffic sheet, and vote upon it. I wish to say now that I cannot vote for that part of the resolution.

“THE CHAIRMAN. It seems to me the proper way for us to do is to take up each commodity, each special commodity, and adjust it as near as we can, and then take up the general classifications, and go through them, and make such reductions as we think should be made. To go through all the different articles, and the different rates upon each article, it seems to me would be rather an intricate job.

“COM’R CLARK. Mr. Chairman, we have got to adopt a schedule here before we put it in force and go over the whole classification. I do not believe this Commission is competent to do it without help. Of course, we can judge whether the rates would be reasonable and just, I suppose; but to do what is proposed we would have to have lots of clerical help, and where is the money to come from? My idea is to go over the commodities most needful and fix the rates on them.

“COM’R STANTON. I am ready to take up any of the special commodities, and take them up one after the other, just as their urgency demands; as for the other classifications of freight, it is a simple matter to consult the ‘Western Classification.’ I have prepared a list of articles of commodities under the ‘Fourth Classification,’ and I have also prepared a number of different commodities under the fifth. Now, we can go through them very easily. We have them right before us. I will have two or three copies prepared for the other members of the Commission, if necessary. As far as the clerical work is concerned, we will have to do the work ourselves. I have been obliged in the past four or five or six months to do this work, and I have kept at it. Of course, we cannot accomplish impossibilities, but we can do the best we can under the circumstances.

“THE CHAIRMAN. It would suit me better if this resolution was modified somewhat. While in favor of every reduction that can be made as reasonable, and while I do not say I will not support the resolution, I would prefer to have it a little more flexible than it is. It seems that it is compelling an average reduction of 25%, and you must make a reduction of one fourth of all the earnings of the company. If we adopt the resolution it will compel us to go minutely into every detail and consider all the different articles, and that would be a great deal of trouble.

“COM’R CLARK. I am ready for the questions.

“COM’R STANTON. There is no doubt but it will necessitate a great deal of work, and it will require constant attention.

“THE CHAIRMAN. In taking up every article to make a horizontal reduction, those articles which belong to the grade that is carried in large quantities, that would not be so difficult; but when you come down to articles of merchandise in their detail and the different rates



and classifications, I don't think a horizontal reduction would be practical. It would satisfy me better if the resolution was modified in that respect. I would like to have some option as to the amount of reduction we should make. If I should find that 25% was not enough, I would make it more. But if I should find, in going through the whole matter, that 25% on the whole business was too much, I would not feel like being bound. I would like to be able to deviate from that.

"COM'R CLARK. Question.

"COM'R STANTON. I am ready for the question. I call for the question, Mr. Chairman.

"THE CHAIRMAN. The question arises, if we should find in adjusting these matters that we could not make an average reduction of 25%, what would be our position?

"COM'R STANTON. That, of course, is taking a hypothetical view of the position. It is a supposition, of course, that we have to take into consideration, but I think we can adjust every rate under that resolution, and regulate every rate under it, and that we can adjust every discrimination and establish a schedule and publish it as an official schedule.

"THE CHAIRMAN. Of course we can adjust every rate, and adjust every discrimination without doing any particular injustice. But what I was getting at was, that when we come to go over the whole of it, if we find that we have not made such a reduction, then what are we going to do? Of course, if I thought it unjust, I would not do it. But at the same time I would not want to do a thing that I might afterward regret.

"COM'R STANTON. I think, Mr. Chairman, when we meet such circumstances, it will be time enough to consider them. I think that so far during our investigation we have not met with any of the difficulties that you have stated. But if, during the time that we are publishing and establishing our schedule, we meet with such circumstances, we will consider them.

"THE CHAIRMAN. We would then have to reconsider what we have done here, if we find we cannot do it.

"COM'R STANTON. If there has been any injustice done we would have no trouble in reconsidering it at any time. But it does not seem to me as though there is any injustice in this.

"THE CHAIRMAN. I do not know that there will be. That is, I am not positively certain that there will be. But the question might arise. There are a great many commodities that ought to have a very slight reduction, and there are a great many others where a reduction of 25% would amount to very little on each individual article. Of course, under this resolution, we would be bound to make the average. If that clause was eliminated, of course, that would make it very easy.

"COM'R STANTON. I want to be perfectly fair, Mr. Chairman, and say that there is nothing in that resolution in any way concealed. There is no joker, or anything of that sort, in it. But it seems to me a fair and square proposition that those different classifications should be entitled to a certain percentage of reduction. Here we have different classifications upon which no reduction has been given during the past year or so, and they are entitled to a reduction if the rates are excessive, and I think in a great many cases there are excessive rates.

"THE CHAIRMAN. Quite a number of them.

"COM'R STANTON. That does not prevent us from taking up those special commodities. We can take up grapes, or we can take up flour, or take up hay, and go right along in that manner and pursue our investigations, and make what reductions are needed.

"THE CHAIRMAN. Suppose when you make those reductions on those special commodities, or general articles of merchandise, after you have gone through them you find that you have not made a reduction of four million. Then we must go over them again and get that four million.

"COM'R STANTON. We will give it to grain, then.

"THE CHAIRMAN. We don't want to give it to grain unless it is right that grain should have it.

"COM'R CLARK. I would like to ask Commissioner Stanton if it is the intention to make reductions on various commodities without inviting the carrier here and giving him a hearing?

"COM'R STANTON. I think that depends entirely upon the Commission.

"COM'R CLARK. As I understand your resolution, it does not give the carrier a chance for a hearing. The investigation before was strictly on grain. Of course, what I am getting at is to be strictly in accordance with the law.

"COM'R STANTON. I am in favor of giving every one a chance to be heard. I am in favor of all of these different shippers that come here having a chance to be heard upon this arrangement establishing a new schedule.

"THE CHAIRMAN. Of course, I have considered this matter very fully. I wanted to hear your opinion upon it. I have got your idea, and I should like very much, of course, as I said before, to have it modified a little. I want to make, and I am anxious to make reductions wherever they can be made in reasonable justice, but I don't very much like the idea of agreeing to do something that I might find it impossible to do.

"COM'R STANTON. If we find it impossible to do it, Mr. Chairman, then we can step right down. If we find that it is an impossibility——

"THE CHAIRMAN. It is not an impossibility, but I mean an impossibility without doing justice.

"COM'R STANTON. I shall never vote to do an injustice to any person, and until it is shown to me that there is some injustice done, of course I would be in favor of this original proposition.

"COM'R CLARK. I move, Mr. Chairman, that this matter be laid over until next Wednesday.

"THE CHAIRMAN. We have given a great deal of time to this matter, Mr. Clark. I would not object to a postponement until to-morrow, but I think we ought to decide this question—that we ought to dispose of it very soon. There has been some question here I was not fully determined in my mind in reference to, and I wanted Dr. Stanton, he being the introducer of the amendment, to give his ideas. If I can conscientiously and consistently support him, I want to do it. But I do not want to do anything that I may regret hereafter, possibly. I want to act fairly and right. I want to do justice to every person, and if I can see my way clear to support Commissioner Stanton in this part of his resolution, I desire to do it. I would like until to-morrow to consider, but I do not want to put it over a week.

"COM'R CLARK. I have no objections to any time. I thought to-day was Saturday.

"COM'R STANTON. Mr. Chairman, the resolution was presented last Saturday, and in the meantime we have had four or five days to consider it. I am ready to vote on the resolution at the present time. I do not see any modification that could be made in that resolution that could conform to my ideas. It seems to me a reasonable proposition, fair, just to the carrier and just to the shipper; and until we have performed some act of injustice, I do not see any objection to the adoption of the resolution.

"COM'R CLARK. I would like to say, Mr. Chairman, that I have made up my mind thoroughly as to how I shall vote upon this matter; of course, it would not take me long to consider the matter. That is why I wanted a division of the question, so as to get the other portion of the resolution before us. In voting to adopt the other portion, I made up my mind that I could not support this part of the resolution.

"THE CHAIRMAN. I have given considerable thought to it. Of course, it was introduced here the other day without any explanation whatever, and I have thought it over very carefully, and I am anxious to do what is right in the premises; but, as I said a little while ago, I don't want to commit myself to do something that is not right. And the question presents itself to my mind that in adopting this resolution, whereby it provides that we shall make an average reduction of 25% upon every commodity and every article that is carried by the railroad, might put one in a position that he would have to do an injustice. On my way up here I was met by a very prominent, a very good friend of mine, and an old friend, and he called my attention to this fact, and after talking awhile with him, I concluded, even before we came here to-day, that I would like to give it a little more consideration before I was called upon to vote upon it. I would like to look into it a little further. The question is involved here whether the Railroad Company can stand a reduction of 25%, and if I am satisfied that they can justly do so, I am in favor of it, and of making this proper adjustment. But if I should be differently informed from what I am at present—I might say at present, by way of illustration—that I believe, from the facts before me, that there should be a reduction of 25% made, and voted for this proposition, but upon further investigation and my becoming more familiar with the variety of questions that present themselves, I might come to the conclusion that we were mistaken in fixing that amount as a fixed fact, that it should be that way, and then we have either got to stultify ourselves or do something contrary to conscience or what is right. That is all there is to it. There may be a legal proposition involved also—I don't know about that. I will be ready to vote upon it to-morrow.

"COM'R STANTON. Mr. Chairman, the investigation of the schedules, and the investigation of the rates which we finally fix, will be the only test that can be offered as to whether we are acting reasonably and justly.

"THE CHAIRMAN. But until we have formulated a schedule, I cannot say positively whether that reduction is proper or not. It depends entirely upon our investigation. If we investigate the schedules, and go through the different commodities and different classifications, and determine that those rates should or should not be reduced 25%, it would be an easy thing to decide the point then; but the question, as I understand, before this Commission is, whether the rates should be subjected to an average reduction of 25%. I want a little time to consider it before I vote



upon this proposition, merely upon the questions that I have stated here to-day. I am anxious to get through with it as quickly as possible.

"COM'R CLARK. I would suggest that as long as the Chairman is undecided, that we take an adjournment.

"COM'R STANTON. I would be opposed to any further postponement, for this reason, Mr. Chairman, that we have to start in upon the schedule, the grain schedule, and every moment of our time is precious at present, and I think it will be necessary for us all to take part in the formulation of that schedule.

"THE CHAIRMAN. I am perfectly willing and ready to go at it to-morrow morning.

"COM'R STANTON. I have about forty or fifty different statements prepared here, ready to go on with, for that schedule.

"THE CHAIRMAN. If there is no objection, we will postpone further consideration of the matter until to-morrow at 1 o'clock.

"COM'R CLARK. I am satisfied to take it up now and go on. As far as I am concerned I do not like to insist upon the Chairman voting upon this now, or to force him to a vote.

"COM'R STANTON. I would not like to force the Chairman into a vote upon any proposition.

"THE CHAIRMAN. Of course, as I said before, I have heard your views, and I have been in doubt somewhat as to the proposition. I was in hopes that it might take a different course here to-day.

"COM'R STANTON. Mr. Chairman, my views are those which I have presented to the Commission, and it would be unnecessary to repeat all the different statements that I made.

"THE CHAIRMAN. As you said a little while ago, there might be a joker in it, but I do not regard that there is any joker in it. I think that it is plainly set forth. It is a question as to whether we should adopt that or not—whether there is anything in the resolution that would prevent me from acting fairly and justly.

"COM'R STANTON. The resolution provides for the regulation of all discriminations, and it provides for the regulation of unjust charges.

"THE CHAIRMAN. It further provides that in regulating these discriminations and regulating the unjust charges we must make it upon the basis that there shall be a reduction of 25%, right or wrong.

"COM'R STANTON. It does not provide for it, right or wrong.

"THE CHAIRMAN. But you must make the reduction of 25%.

"COM'R STANTON. It provides for a reduction of 25%—that the reduction shall be that specific sum. But how it shall be distributed shall be for this Commission to determine. If we had discovered the exact figures from the Railroad Company, showing the different amounts of freight earnings from the different classifications, we would be better able to say what should be allowed to each classification; but we have not, and so, for that reason, it was, in my opinion, only possible to say what should be given on grain.

"THE CHAIRMAN. Well, that is only approximately—we did not make it 25% on grain.

"COM'R STANTON. Our investigation might show that grain would be entitled to a higher percentage than what has already been given, and if so, I am prepared to vote upon that, and give it the proper percentage of reduction. But I claim that with the 8% reduction given that it will not affect any one unreasonably, and that we will be able to

formulate a schedule, based upon the horizontal reduction of 8%, which will be reasonable and just, and such further regulation as this Commission shall make upon those rates. If it is decided, as I said, to give grain a further reduction, why, I shall vote for it. But for the present, I am in favor of saving some percentage of the reduction for other shippers. I think if we go along in this manner and give horizontal reductions to different commodities and different classifications, that we will eventually reach a point where, instead of making a 25% or 30% reduction upon the rates of the company, we will make a reduction that will apply to certain classifications and certain commodities which would get the entire benefit of the reduction, and other commodities would be in the same position.

"THE CHAIRMAN. There is no proposition to make a horizontal reduction in anything else, and even if we should pass this resolution it could not affect the grain rates, because you have not made a horizontal reduction there of 25%.

"COM'R STANTON. No, but there has been a reduction of 11%, and we give an additional reduction of 8%, and then we bring it, by this resolution, up for adjustment on the discriminations and unjust charges.

"THE CHAIRMAN. Certainly, we will do that, even if this other part was eliminated.

"COM'R CLARK. What time do you want it to-morrow?

"THE CHAIRMAN. One o'clock to-morrow.

"COM'R CLARK. I move we adjourn to 1 o'clock to-morrow. If we cannot agree, we might as well adjourn.

"THE CHAIRMAN. I don't want to delay the action of the Board, or take up any more time than is necessary; but the question presents itself here for the consideration of this Board, to my mind, as I have already stated, without expressing an opinion as to how I would vote upon it. I have entered into this investigation of the subject here for information, and I think I will feel better satisfied if I cast my vote to-morrow than I would do at this time, though if it is necessary I could do so at present.

"(A number of communications were read and filed with the Secretary.)

"(On motion, the Commission adjourned until Friday, September 13, 1895, at 1 o'clock.)

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"SAN FRANCISCO, September 13, 1895.

"PROCEEDINGS OF THE BOARD OF RAILROAD COMMISSIONERS OF THE  
STATE OF CALIFORNIA.

"The Board met pursuant to adjournment.

"Present: Commissioners La Rue, Stanton, and Clark.

"THE CHAIRMAN. Now, the question will be upon the adoption of the amendment of Dr. Stanton to the original resolution. Are you ready for the question?

"COM'R CLARK. I understand this is Dr. Stanton's resolution that is brought in here, with the exception of the little amendment offered to it—the resolution of Dr. Stanton presented here.

"THE CHAIRMAN. Yes, sir; we divided upon one part of it. The question is now upon the 25% resolution.

"COM'R STANTON. As I understand it, there has been a division upon that question. Now, I understand that all that remains to be voted upon is the resolution affecting the reduction of 25%.

"THE CHAIRMAN. Yes, sir; I have thought the matter over carefully, and submitted it to writing—an explanation of my vote. I will read it:

"Having voted yesterday for a reduction upon grain rates of 8%, upon the question as divided at the suggestion of Commissioner Clark, I now deem it only proper to say a few words in explanation of my vote upon the rest of Commissioner Stanton's resolution.

"I declined to take the pledge sought to be imposed upon me for an average reduction in freight rates of 25%, and my reasons for so doing were, that at that time I had no sufficient information on the subject to enable me to pledge myself to a reduction which might be unjust to the railroad corporation to be affected by our action.

"That the rates of freights and fares in this State, as exacted by the Southern Pacific Company ever since its organization, and now, have been grossly oppressive, is known to every intelligent man in the State, especially to those who, like myself, have traveled constantly and made large shipments over their lines.

"I am of the opinion that the earnings of the railroad lines of the Southern Pacific system in the State of California are sufficient to pay their operating expenses, maintenance, and a fair rate of interest upon their real value and legitimate cost. The statements made and the testimony taken during this investigation, by those connected with the company, concerning the sale of bonds, cost of moving freight, and other expenditures, were indefinite, unsatisfactory, and evasive, but from the information so obtained, I am of the opinion that a reduction of 25%, inclusive of the reductions made since the 1st day of December, 1894, will not be unjust or oppressive. For a great many years the shippers of this State, not only the farmers, but shippers of merchandise to the interior, have been subjected to a system of exaction and extortion, which has been the subject of constant complaint. As I understand Dr. Stanton's resolution, it is an average reduction of freight rates on all classes of freight of 25%. It seems to me that fairness to the Railroad Company justifies this reduction, and justice to the oppressed freight-payers of this State imperatively demands it.

"A constant threat has been made to this and other Commissions, as a Board and through the public press, that if ever reductions were made which were not satisfactory to the Railroad Company our actions would be reviewed in the courts. Of course, we cannot anticipate what the action of the courts may be, but we can at least put the machinery in this Commission in motion, to the end that the intention of those who framed the Constitution, and of the people of this State who adopted it, may be carried into effect.

"Satisfied as I am now that such reductions are legal and just, I shall, notwithstanding my present vote, always hold myself in readiness to change or restore any rate which change of circumstance or further evidence may convince me is unjust to the Railroad Company. I fully realize the fact that we owe not only a duty to the people, but to the corporation itself, and stand prepared to perform mine to either party, whenever the occasion should justify it.

"I therefore announce that upon Dr. Stanton's resolution for a reduc-



tion of 25%, I shall vote aye, and trust that we may shortly be able to prepare a schedule and put these new rates in force.

"THE QUESTION now is upon the adoption of the resolution.

"COM'R CLARK. Mr. Chairman, as I stated yesterday, I cannot support the resolution. While I might vote, after a thorough investigation, for a 25% reduction, yet I will not now—I cannot commit myself beforehand. In the first place, I have been told by competent attorneys that there have been decisions in cases of this kind, and that decisions have been reversed on the ground that the Railroad Company had not been informed of the matter so as to appear before the Commission before the fixing of the rates; and if that is the case it seems to me the right way to get at this, and the best way to get at it, is to notify the company to appear before this Board, and give them a number of days to prepare for it—to come before this Board and show cause why the rates should not be lowered.

"THE CHAIRMAN. They have had a hearing here for three weeks.

"COM'R CLARK. Mr. Chairman, we had a hearing on grain rates only, and our reports show it.

"THE CHAIRMAN. Well, it covered the whole ground.

"COM'R CLARK. That makes no difference. There are other questions that can be asked upon this matter.

"THE CHAIRMAN. We have no objection to that, Mr. Clark, we have not made these rates yet.

"COM'R CLARK. I have another reason: I was nominated on the platform that did not pledge me to any resolution—I was nominated by a party of broader principles than that—by a party of protection—that did not pledge me, or any other nominee, or any other of the Railroad Commission, to do only their honest duty. I wish to do that in the future, as I have in the past. I do not care what the criticisms of the press or the public may be. I am here to honestly and conscientiously do my duty, and I shall vote in that direction during my incumbency in my office. If the Democratic party has pledged their nominees, as has been said, and as the Democratic papers have been hounding us to go in with the 25% reduction, that has nothing to do with me. I am a Republican member of this Board, and I am simply putting myself upon the records. If upon investigation, when we go through this matter and make up our tariff sheet, I shall vote where I think reductions should be made, and that is the only pledge I shall make to the people. When I was going through my campaign I told the people in my district not to vote for me on the ground that I should go to work and confiscate the railroad property and tear it up, and 'cuss' the railroad, but on the ground that I would treat them as I should the shippers. I believed reduction should be made, and I shall vote for reduction when the tariff sheet comes in, in places; I do not know to what extent, and I do not believe there is one member on this Commission to-day who can conscientiously say whether there should be a 25% reduction or not.

"THE CHAIRMAN. We do not propose to make any general reduction.

"COM'R CLARK. Well, it is an average reduction. It seems to me the question before the Commission to-day is to uphold the Democratic platform instead of the rights between the shipper and the company.

"THE CHAIRMAN. I do not think the platform has anything to do with it. It doesn't have anything to do with me, because I declined, as

I stated in my remarks awhile ago, to pledge myself when I was nominated. The platform is one thing and men's actions are another.

"COM'R CLARK. I notice that it entered into the discussion of the grain rates between you two members.

"THE CHAIRMAN. What did?

"COM'R CLARK. The Democratic platform.

"THE CHAIRMAN. Well, I will say I didn't pledge myself.

"COM'R CLARK. Well, I simply want to place myself right with the public.

"COM'R STANTON. I wish to say in regard to this reduction that I honestly believe that these reductions can be made; but when we make rates that are unreasonable or unjust, I think then it is time for us to meet that proposition. If we to-day start on this proposition of reducing the rates 25%, and publish and establish these rates—and if there is any rate made during our calculation that is unjust or unreasonable, the railroad, or their representatives, can come here—the representatives of the tariff department can come here and show us where it is unreasonable, and we will hear them upon the subject. They have rights which, of course, cannot be lost sight of. I have no intention of doing any injustice, but to act fairly. As far as pledges are concerned, the pledge of the Democratic party to a great extent, I believe, is just, and I believe that the pledge should be upheld. I see no reason why it should not; we are not discussing the political situation at the present time.

"THE CHAIRMAN. We are in the midst of a ballot now—a partial report. This amendment has been adopted, and the question now is upon the adoption of the amendment offered by Dr. Stanton to the original resolution. Are you ready for the question?

"COM'R CLARK. Question.

"THE CHAIRMAN. Those in favor of the adoption of that portion of the amendment not voted upon yesterday will answer aye, and those opposed will answer no. The Secretary will call the roll.

"COM'R CLARK. I want to state again, to put myself right, that when these matters are investigated, and we go through them, I will vote for reduction where I think it is proper, but I shall not uphold a pledge of any political party.

"THE CHAIRMAN. I think I said, and Dr. Stanton said the same thing, that if we cannot do this without injustice to the Railroad Company we will make changes.

"COM'R CLARK. You ought to be sure you are doing it before you do this. You are virtually fixing the rates.

"THE CHAIRMAN. Mr. Secretary, call the roll.

"(The Secretary called the roll upon the adoption of the resolution. Commissioner Clark voted no, and Commissioners Stanton and La Rue, aye.)

"THE CHAIRMAN. The ayes have it. The resolution is adopted. The question comes now upon the adoption of the resolution as amended. All those in favor of the resolution as amended will answer aye, and those opposed will answer no.

"COM'R CLARK. That was offered as a substitute, as I understand, and wiped yours out entirely.

"THE CHAIRMAN. This will wipe it out as soon as we take the vote on it.

"COM'R CLARK. I think it is wiped out now.

"THE CHAIRMAN. As I suggested, we voted upon it as a whole, and it was amended. The difference between the substitute and an amendment is that the substitute as adopted is to take the place of the original proposition; that is subject to amendment; but the amendment itself must be perfected before it is adopted, because we cannot amend it afterward.

"COM'R CLARK. This resolution that we have voted on now has nothing to do with the resolution you introduced. Yours was on grain rates specifically, and we voted on that specifically.

"COM'R CLARK. So far as the grain rates are concerned.

"THE CHAIRMAN. What is the objection to adopting it as a whole?

"COM'R CLARK. You can adopt it then, if you want to; but I don't see anything before the Board.

"THE CHAIRMAN. We have voted upon three propositions. I offered an amendment, which was adopted; and now the question is, shall we vote upon the whole—shall we vote upon the resolution of Dr. Stanton as amended? We voted upon it separately before.

"COM'R STANTON. Mr. Chairman, I believe the question of division came up before the Board yesterday, and that acted in the same way as an amendment would. An amendment can be made to a motion either by striking out certain portions or by changing certain portions. For that reason we voted entirely upon the 8% question and took that up as an amendment, and that was passed by an order of the Board. You suggested as an amendment that the words 'at the earliest convenience' should be substituted for 'at once.' The question, as I understand it now, is only the vote upon the resolution.

"THE CHAIRMAN. Upon the whole as amended—that is the question—that is the proper question, that is the proper way in all political bodies when you amend any part of it.

"COM'R CLARK. You mean this last resolution you adopted this morning? You want to vote on that as amended?

"THE CHAIRMAN. That is only a part of it. We voted upon it in division, and we also voted upon another part of it. Now the question is upon the adoption of the resolution of Commissioner Stanton as amended. The Secretary will call the roll.

"COM'R STANTON. I will ask for a ruling upon that. We voted upon the division of that question yesterday. We voted then upon that portion of the resolution fixing the grain rates—fixing the reduction at 8%. That was passed, and that we have nothing to do with at the present time, but we will simply take up this other proposition of reduction—the average reduction of 25%.

"THE CHAIRMAN. That is voted upon.

"COM'R STANTON. That is voted upon.

"THE CHAIRMAN. And my amendment is voted upon. We voted upon the separate portion. Now the question comes upon the adoption of the whole resolution as amended.

"COM'R CLARK. Dr. Stanton put in his as a substitute. If it is adopted that wipes the other out, Mr. Chairman.

"THE CHAIRMAN. Of course it wipes it out; but we have adopted it by piecemeal, and now we will as a whole.

"COM'R CLARK. Some of the members voted aye on one portion of it, and no on another. I shall refuse to vote.



"THE CHAIRMAN. We vote upon separate propositions, but when it comes up on the whole, if you do not like it, even though you voted for some part of it, you have the right to vote against it as a whole; it is the duty of every member to perfect an amendment and get it as near as possible to suit him—it is his duty to do that. Then he has the privilege, when it comes up for adoption as a whole, to vote against it if he thinks proper—that is parliamentary usage.

"COM'R CLARK. Then you are not voting on the 8% reduction at all?

"THE CHAIRMAN. Yes, that has already been passed. Now we vote upon the proposition as a whole.

"COM'R CLARK. How can I vote upon it as a whole—I cannot split my vote?

"THE CHAIRMAN. You offered an amendment to it, and your amendment was voted down—the majority voted against you. So you did all you could to perfect the amendment to Commissioner Stanton's resolution to suit you, and failed. You got a portion of it, and a portion of it you did not. Now it comes up as a whole. That is a proper question to put.

"COM'R CLARK. I am asking now for information, when a substitute is put in for a resolution, and the substitute is adopted, does that not wipe out the resolution?

"THE CHAIRMAN. Yes, if it was put in and treated as a substitute, but we have not treated it as a substitute. We have voted upon the proposition just as we have upon yours. We treated yours as a substitute. We did not offer to amend it. If that had been adopted then I would have offered an amendment to it, and Dr. Stanton would have offered them. Then it would take the place of the original resolution—just take the place exactly; but this was treated as an amendment. You first asked for a division of the question before a vote was given upon its merit. You asked to have it divided, and we have voted upon one part of it. Then it became an amendment, and was treated as such all the way through. We have amended it; now, when it has been amended, we passed over it and considered it in all of its phases, and we have changed some of it, and the majority of it we have adopted as it was introduced. Now the question comes up on its adoption as a whole. If it was the case of a bill before the Legislature—a bill pending—and another party offered a bill as a substitute, it would be taken up then and adopted or rejected. If adopted, then it takes the place of the original bill, and the House of Representatives or the Senate proceeds to consider it just the same as the original bill; but if it is offered as an amendment before it is adopted, because after it is adopted it becomes a part of the bill, and you cannot change that afterward.

"COM'R STANTON. Mr. Chairman, you ruled on yesterday that there was a division—you ruled there was a division; then we voted upon one portion of the resolution. Now, that was passed, and with that we have nothing to do. We passed the 8% reduction on grain rates, and now we take up the other, as I understand it, and pass it as we have done. I am under the impression that that settles the matter at once.

"THE CHAIRMAN. Doctor, in the consideration of a bill before the Legislature, when it is considered in sections, we pass the sections—it is passed—it is adopted and another one, perhaps, amended, and we come to another and that is amended, and we come to another and that is adopted; the next one is not amended. Then, when we get through, the

bill comes upon the passage of the bill as amended, although we have passed upon these certain sections, and have voted upon them—some we have amended and others we have not—they have all been voted upon—and then the question comes up as to the passage of the bill as amended. That is the rule. I don't see any difference one way or the other.

"COM'R CLARK. This was a substitute for your resolution, and was an amendment to it.

"THE CHAIRMAN. The substitute is the same as an amendment.

"COM'R CLARK. Well, I cannot vote upon the propositions—it will be voting against the 8% reduction.

"THE CHAIRMAN. Then you are in an unfortunate position.

"COM'R CLARK. I do not consider myself in an unfortunate position. If that is the ruling, I am going to appeal from the decision of the Chair.

"THE CHAIRMAN. Very well, I will make a ruling in a moment. I do not want to inflict any hardship on any one, and I did not think of any such thing. I will clearly follow the rules that are observed in all deliberative bodies, legislatures, congresses, and everywhere else; that is the way such propositions are treated where two or more sections are contained in a proposition and are amended, stricken out, or added to. After you go through the whole bill then the question arises, Shall the bill pass as amended? That is the rule. I did not think of anything else but following out the common usage. I never thought of raising the question; but that being the question, that would be the ruling.

"COM'R CLARK. I think Dr. Stanton's resolution covers the whole subject-matter.

"COM'R STANTON. I think that every member of this Commission has a right to vote for whatever reduction he feels like. I think Commissioner Clark voted yesterday to reduce the grain rate 8%. Now, it was your ruling that that question was divisible, and that there should be a vote taken upon that amendment, or that portion of the resolution. It was voted upon and the three members of this Commission decided that that reduction should be made. Now, I see no other reason why Mr. Clark, or any other member of the Commission, should be excluded from the right he has to vote upon that particular question. If you favor that 8% reduction, I think you should be given the same credit as any other member of this Commission. Then, if it is made a question of policy, as Commissioner Clark has suggested, and he does not care to be placed upon record in that position—I am willing to be placed upon record, and I know you are.

"THE CHAIRMAN. I have no objection, Doctor. I was merely carrying out the rule. If the Board does not care to have this motion put—of course, the different parts of it have been carried already, and I have no objection. I do not want to put Mr. Clark in a false position—I would not do it for anything. When you first commenced talking I did not think of the position it put him in. That is the rule in any legislative body, and if it was there it would have to be carried out. The question, of course, was upon the resolution, or whatever may be pending. He endeavors to perfect it as long as he can, and when he gets it to suit him, he votes for it, and if he does not, he votes against it. He tries to get it as satisfactory as he can, but here it is somewhat different, perhaps, and I do not insist upon it, or desire to enforce any parlia-

mentary usage at all. We all know how he stands—how he voted upon it. We will consider the resolution adopted as it has been voted upon.

“COM’R STANTON. In all parliamentary bodies, as I understand, the members of that body would have the right to call for the division of the question contained in that resolution.

“THE CHAIRMAN. Yes, sir; that is my understanding.

“COM’R STANTON. Or the Chairman may make that ruling.

“THE CHAIRMAN. It is a question that ought to be divided. The Chair can make the statement or any member can ask that the question be divided—if it is a divisible question. I thought this was, as Mr. Clark said he would vote for a part of it, and the other part of it he could not vote for.

“COM’R STANTON. Well, the way I feel about it, I am willing to vote on the resolution as it is.

“THE CHAIRMAN. Well, if Mr. Clark objects, I do not wish to force him to vote upon it. It has been adopted—a portion of it by a unanimous vote of the Board, and a portion of it by a majority vote. The results should be the same, only Mr. Clark might stand upon record, upon the final vote, as voting against the whole resolution, I suppose. There is nothing else, is there?

“COM’R STANTON. Nothing else, except in relation to the new schedule. You will find in scheduling these rates there are different fractions and percentages that will occur, exceeding in some cases more than a half of a cent on either side, and I think it would be well to instruct the Secretary how to make it.

“THE CHAIRMAN. You had better make a motion in relation to it—that wherever there is a fraction it shall either go to the higher or the lower number, wherever you see proper.

“COM’R CLARK. Wouldn’t it be better to prepare the schedule that way, and bring it in and adopt it then?

“THE CHAIRMAN. Afterward?

“COM’R CLARK. Yes, sir.

“THE CHAIRMAN. Well, that should be simplified as much as possible in that way, so as to leave out the fractions. If it was .923, you would call it .92—or would you make it entirely right to correspond with that exact reduction of 8%? I notice in the grain schedules here they are all even cents. In other States they carry it out further, even to mills. We do not get into mills very much in our calculations in California, but I guess we will have to come to it. We want to avoid as much as possible multiplication in carrying out these fractions. I think it ought to be simplified.

“COM’R STANTON. Wherever the fraction exceeds half a cent—where it exceeds half a cent over 1.97, let it be 1.98.

“THE CHAIRMAN. And less than half a cent, let it fall to the lower number.

“COM’R STANTON. Let it fall to the lower number; yes, sir.

“MR. MARTIN. I will state for the information of the Commission that the usual custom in making these rates by the ton is for the convenience of the shippers, as well as of the carrier, to use the decimal instead of odd cents—five or ten cents—we keep it on the decimal order.

“THE CHAIRMAN. I think myself that would be the most convenient for all parties.



"COM'R STANTON. If it was an odd number, say .93 or .94, you mean in that case you would make it .90 or .95?

"THE CHAIRMAN. You would carry it to the nearest number—if it was .93 it would go to .95, or .92 to .95.

"MR. MARTIN. If it was .92 it would go to .90.

"THE CHAIRMAN. .90, I mean; in other words, that the sum should end either in a '5' or a '0,' and go to the nearest number. Will you make a motion to that effect?

"COM'R STANTON. We can instruct the Secretary to that effect. We can prepare the schedule the coming week, and arrange it.

"THE CHAIRMAN. Well, in the arrangement of that schedule we do not want to do that in open Board. We can get everything ready by ourselves, but it must be adopted in open Board. We can do the work together much better.

"COM'R STANTON. We can agree upon the form in which it shall be published. Instead of the Southern Pacific Company system, it may be considered as the Board of Railroad Commissioners, then.

"THE CHAIRMAN. They would make the schedules that way, under the rules. You know I incorporated that in my resolution.

"COM'R STANTON. I think it would be well for each Commissioner to take a number of those rates and prepare them, and then have them here at the next meeting and submit them. We will have to do something of the kind in order to hurry it through.

"THE CHAIRMAN. We will meet here and do it. I suppose our Secretary wants to do some hard work. Well, that is a matter we can agree upon.

"COM'R STANTON. How would it be, Mr. Chairman, to prepare these schedules upon the different divisions, and serve them upon the Southern Pacific Company as they are prepared? I merely offer that as a suggestion.

"THE CHAIRMAN. Well, I suppose it would not take a great while to prepare them.

"COM'R STANTON. We are going to have the grain schedules concluded by next week; by Thursday or Friday of next week.

"THE CHAIRMAN. Shall we go over and correct these discriminations first, before making the 8% reduction?

"COM'R STANTON. I propose to make that horizontal reduction first, and then go over and make the amendments, with some exceptions; we can take those discriminations irregularly—what discriminations there are.

"THE CHAIRMAN. All the discriminations that are to be corrected it will be just as well to figure first, and then let the general reduction apply to the whole; but either way, it makes no difference. That, I think, though, would be the better way.

"COM'R STANTON. Very well; that would satisfy me.

"THE CHAIRMAN. Of course, we would have to take up the schedules and go through them.

"COM'R STANTON. Then we can meet here for that purpose any day that is agreeable, and commence work upon the schedules.

"THE CHAIRMAN. Monday?

"COM'R STANTON. Monday will suit me, or Tuesday.

"COM'R CLARK. I cannot very well be here Monday. I could not get to town in time; but I could on Tuesday or Wednesday.

"THE CHAIRMAN. Well, Tuesday, then? What time—at 10 o'clock?

"COM'R STANTON. Ten o'clock; yes, sir; in the meantime I will have a number of the schedules prepared, and we will go at it as rapidly as possible.

"THE CHAIRMAN. What time does your train get in?

"COM'R CLARK. About 11 o'clock.

"THE CHAIRMAN. Well, say 1 o'clock. I cannot get here by 10 o'clock. I can get here by 11.

"COM'R CLARK. I could not, either. In the meantime, I will look over the schedule and make a study of it. I think there are discriminations made that ought to be corrected.

"COM'R STANTON. I have a table prepared already of what I consider discriminations, and we can proceed to adjust those on Tuesday. I move that we now adjourn until Tuesday, at 1 o'clock.

"(The motion is carried, and the Commission adjourned until Tuesday, September 17, 1895, at 1 o'clock P. M.)"

#### SCHEDULE OF GRAIN RATES.

The Commission met September 17, 1895, at which time Commissioner Stanton presented for adoption a schedule of rates to be charged by the Southern Pacific Company for the transportation of grain over its lines within the State; also, an order enforcing the same. The schedule and order were unanimously adopted, and on the 26th day of September, 1895, were served upon the officers of the company.

The company has failed, neglected, and refused to put the same in operation, and since the adoption of such schedule has continued to charge, for the services therein provided for, rates different and in excess of the rates fixed for such services by the Commission.

#### PROTEST OF SOUTHERN PACIFIC COMPANY.

Subsequent to the adoption of this schedule, the Southern Pacific Company presented to the Board the following protest, requesting that it be placed on file:

*To the Honorable Board of Railroad Commissioners, State of California—La Rue, Clark, Stanton:*

The Southern Pacific Company, in the assertion and for the maintenance of its property rights and those of its lessors, protected by the provision of the Constitution of the United States, protests against your proposed action fixing and establishing its freight rates, as threatened, outlined, and declared by your resolution adopted on the 13th day of September, A. D. 1895, and entered upon your official records. As grounds of protest, this company specifies:

First—The personal financial interest of the Chairman of your honorable Board in obtaining the greatest possible reduction of transportation rates for land products, and this by reason of the fact that he is one of the largest, if not the largest, land-owner and shipper by rail of land products in the State, should disqualify and does disqualify him from officially acting and passing on the subject of those rates in which he has so large a financial interest. It is not consistent with natural right that any person should officially sit and act and pass judgment upon a subject in which his own financial interest is directly involved, and which can, therefore, be largely promoted by his decision.

Second—The majority of your honorable Board are disqualified from acting in the premises, because bound in advance of any investigation or consideration of the merits of the subject to largely reduce the compensation to be received by this company for its services in transportation within the limits of California, and this by reason of the unqualified approval, acceptance, and indorsement of the platform, resolution, and requirements of organized political conventions, and of their having promised and

agreed to carry out in their official decisions the wishes of the members of such conventions, as expressed in their platforms, resolutions, and requirements, adverse to the property rights of this company. The majority of your honorable Board having been elected to their present position under and by reason of such approval, acceptance, and indorsement, promise, and agreement, are not free to act and cannot act impartially in passing upon a subject involving the property rights of this company, and are not qualified to fairly investigate here and determine, when not wholly free to render such decision as good conscience and unbiased judgment might demand.

Third—The evidence, testimony, and proofs before your honorable Board, of record, as the law directs in your official proceedings, show the facts to be and the facts are that this company has not received and is not receiving from its rates for transportation now in force sufficient revenue to pay any dividend to its stockholders, and has not received and is not receiving from its rates for transportation now in force a revenue sufficient to meet the necessary costs and the necessary fixed charges of the operation and maintenance of the railroad lines operated and maintained by it, and your official records do not show and there is not any evidence, testimony, or proof to the contrary. Notwithstanding these established facts, the majority of your honorable Board have deliberately pledged themselves, by the terms of your resolution adopted on the 13th day of September, 1895, to make such further reductions upon the freight rates of this company now in force as shall constitute an average reduction of 25% thereof, and to at once proceed to make and enforce freight-rate schedules accordingly.

By the adoption of this resolution, the majority of your honorable Board have decided to further reduce the revenue of this company from freight transportation in the State of California in the fixed amount of 25%, to be apportioned as an average reduction upon its freight schedules, but to be absolute in its effect upon the company's revenue, in advance of ascertaining or determining what, if any, rate is unreasonably high and should be lowered, and have definitely determined, notwithstanding the proofs shown by our own records, and which is without even the shadow of contradiction, that this company is not receiving for the services rendered by it in transportation, revenue sufficient to meet the necessary costs of operation and fixed charges of its railroad operation and maintenance, to reduce the income from its present freight rates in the fixed amount of 25%, to be hereafter averaged and forced upon its present freight-schedule rates for classes and commodities and between points which you could not, at the time of the adoption of your resolution, specify, for the want of necessary information as to present rates.

The Southern Pacific Company is advised and believes, and therefore charges, that in so proceeding you are not acting under any warrant or authority of law, but are unlawfully invading its property rights and are turning the form of regulating into the fact of confiscating its property, and that said resolution was adopted by the majority of your honorable Board, and such further action is contemplated by them pursuant to the pledge taken by them as aforesaid, and not upon proof and determination as to whether the present rates of said company are reasonable or otherwise. In so proceeding and acting, you will take its property for public use without just compensation; you will deprive it of its property without due process of law; you will deny to it the equal protection of the law.

Upon each and all of the grounds hereinbefore specified this company presents this protest against your further so proceeding and acting in the premises, and respectfully asks that this protest may be entered upon your records.

Dated September 17, 1895.

SOUTHERN PACIFIC COMPANY,  
By CHARLES F. CROCKER,  
Vice-President.

[SEAL.] Attest: G. L. LANSING, Secretary.

The Commission, believing the communication to be impertinent, frivolous, and insulting, refused the request and ordered the same returned to the officers of the company.

#### SOUTHERN PACIFIC COMPANY VS. RAILROAD COMMISSIONERS.

On October 15, 1895, the Southern Pacific Company filed a suit in equity, in the Circuit Court of the United States for the Northern District of California, against this Commission, seeking to annul the order fixing rates as adopted, and to restrain the Commission from putting said or any order or schedule in force reducing the grain or any rates then charged by said company for the transportation of freight within the State of California.

On the filing of this bill a temporary restraining order was issued, enjoining the Commission, not only from putting in force any schedule



of rates adopted prior thereto, but also restraining them from adopting or attempting to enforce or to adopt any other, further, or different schedule of rates for the transportation of freight and passengers by the Southern Pacific Company whereby the rates of charges then collected by it for such service should in any manner be reduced. This suit is still pending and undetermined, and said restraining order is still in full force and effect, with the result that since the issuance of the same the hands of this Commission, so far as the Southern Pacific Company is concerned, are effectually tied.

The defense of this suit has been entrusted to the Attorney-General of the State, who, realizing its importance, agreed with the Commission upon the selection of Messrs. Robert Y. Hayne, W. W. Foote, and J. C. Daly as additional counsel.

The questions at issue are of the utmost importance to the people of the State; and involve, not only the right of regulation of rates through the medium of a Railroad Commission, but the vital question of the right of the people of the State of California, through the Commission, to regulate or to interfere in any manner with the charges fixed by the Southern Pacific Company; and, if the position taken by the complainants is sustained, all hopes for regulation of the rates of this corporation are destroyed, and such charges as they may deem proper will be enforced, regardless of the will of the people.

One of the most unfortunate results of the issuance of the omnibus injunction against this Commission has been the prevention of any action toward the regulation of discriminations against various rail and shipping points. This is one of the greatest evils under which the shippers of California suffer, and the discriminations are numerous.

This Board has given considerable study to the question, and finds, in almost every instance of the more important irregularities investigated, that the carrier urges as an argument in favor of these charges that the presence of water competition is their justification. It is true that in many sections of our State, notably in the Sacramento Valley and shipping points close to the Bay, as well as points upon the coast reached by water and rail, shippers are more favorably situated for transportation purposes, but discriminations are specially prohibited by the constitutional provision of Section 21, Article XII.

The actions of other Commissions, including the highest authority, the Interstate Commerce Commission, recognize water competition as an important factor in rate-making, and we believe that some legislative action or constitutional amendment empowering the Board of Railroad Commissioners to determine the extent of territory affected by this factor would benefit shippers in general and deal fairly by all carriers. The natural advantage of a shipping point having water and rail facilities should not be destroyed by such active competition that consolidation of the carriers would result for mutual protection. The Board was engaged in the task of equalizing the rates of the Southern Pacific Company and correcting discriminations in grain rates when enjoined by the Circuit Court.

[The foregoing was transmitted under date of June 3, 1896.]

Since the transmission of the foregoing, the various railroad companies transacting business in the State have filed with this Commission certain reports of the business transacted by them. Formerly it was the custom of this Commission to make annual reports to the Governor for publication. At the session of the Legislature held in the year 1891 it was enacted that the publication of reports be made biennial instead of annual. The last published report of this Commission included the various reports of the railroad corporations made to the Commission of the business transacted by them for the period ending June 30, 1894. Reports have also been made by said railroad companies, of the business transacted by them for the years ending June 30, 1895 and 1896. It was originally the intention of the Commission to embody in its report, in detail, the reports of such companies for both of said years, but after investigation we determined that such a course would serve no useful purpose. All the information of public utility found in said reports for the year ending June 30, 1895, is substantially contained in reports for year ending June 30, 1896; their publication would be a useless repetition and entail a double expense upon the people of the State without a corresponding benefit. We have therefore determined to request publication of the reports of said companies as filed for the year ending June 30, 1896. The reports for the year ending June 30, 1895, are on file in our office, and additional information can be obtained if desired.

The annual reports of the transportation companies which this Commission require for the purpose of furnishing statistical information, were, in many instances, withheld until late in October, and for this reason the presentation of our report was delayed. It appears to this Commission that a deliberate effort was made by some of these companies to obstruct the action of the Board by questioning our authority to require annual reports; it is contended that as there is no provision of law by which carriers are obliged to report to the Railroad Commission, it is optional with them to furnish the desired data. To obviate further difficulty and needless litigation, we respectfully suggest the passage of an Act similar to that in force in the State of Kansas, which imposes a penalty for refusal to make suitable reports. Numerous applications for these reports come from every State in the Union, and foreign countries, and it is of vital importance that the data furnished should be complete in every detail.

The desire to have the favorable consideration of your Excellency and of the members of the Legislature enlisted in behalf of this and other measures which will be submitted, prompted this body to carefully investigate railroad affairs in California, and in addition we have examined the railroad laws of other States, and have compared them with the laws of this State, in order to suggest proper remedies for the existing evils, so that a more satisfactory condition of transportation matters in general may ensue.

#### RESTRAINING ORDER.

In the case of the *Southern Pacific Co. vs. The Railroad Commission*, asking for a temporary restraining order against said Commission:

Said cause came up for hearing before the Hon. Joseph McKenna,

Judge of the Circuit Court of the United States for the Northern District of the State of California, on the 22d day of October, 1895. The parties not being ready for trial, the case was postponed from time to time until the 10th day of December, 1895, on which day the trial commenced. The reading of affidavits and the argument of counsel continued for more than forty days, and the cause was submitted to the court for its decision on the 20th day of May, 1896.

The Hon. W. F. Fitzgerald, Attorney-General of the State, Hon. W. W. Foote, Hon. Robert Y. Hayne, and Hon. J. C. Daly appeared for the Commissioners.

Months have elapsed since the case was submitted. Under the temporary restraining order our hands are tied and we are powerless to act in any manner relating to the correction of discriminations, or the fixing of rates of freights and fares where the Southern Pacific Company is a party.

In this case, jurisdiction of the Commission is questioned, its constitutionality attacked, and its power to make and regulate rates of freights and fares, and to correct abuses and discriminations, denied.

Not desiring to involve the State in further litigation wherein the same questions would arise, we have refrained from attempting to regulate or change the rates of either freights or fares upon any of the other railroads operated within the State, believing it better for all parties interested to wait until the questions pending in the Circuit Court of the United States are decided.

The questions involved in the case now pending are of very great importance to the people of this State, and as a matter of right and justice to them the case should be decided and settled as early as can consistently be done, that the people may know whether this Commission has any power, or whether legislation is required to enable the Commission to carry out the intention of the Constitution, and the will of the people as expressed by them therein, or whether we are merely a Commission in name, without the power to accomplish any good whatever.

#### LEGISLATION.

The Legislature of the State of California passed an Act, approved April 15, 1880 (Chapter LVII, Statutes of California), to compel railroad corporations or individuals owning railroads to operate their roads. Also, at the same session, passed an Act to organize and define the powers of the Board of Railroad Commissioners, approved April 15, 1880 (Chapter LIX, Statutes of California). These two Acts are the only laws that have been passed relating to the Railroad Commission, since it has been in existence, as at present constituted.

The last above-named statute relates generally to the organization of the Board, the fixing of salaries, the hearing and determining of complaints, etc.; but little, if any, more power is conferred upon the Commission by this statute than is directly provided for by the Constitution.

We are of the opinion that, in order to make the work of the Commission effective and to enable it to carry out the provisions of the Constitution in such manner as its framers intended, and as the wants



of the people require and demand, further powers should be conferred by the enactment of such laws that would give the Commission power and make it their duty to compel all transportation companies to report annually to said Commission, or more frequently if necessary, giving a statement, in detail, of their organization and affairs in conformity with such rules and regulations as shall be adopted by said Commission.

This Board should have the right to regulate the speed of trains at crossings, and to compel the erection of bells at same, as well as the authority to designate the location of depots, stations, switches, side-tracks, turnouts, and spurs, for the benefit and convenience of shippers.

The Commission should also investigate accidents, and be empowered to require the posting of schedules of freights and fares in depots when changes have been made therein.

We have taken the liberty of quoting from the report of the Board of Railroad Commissioners of the State of Kansas, for the year 1895, the following article, which coincides with our views on this very important question:

That the most satisfactory method of regulating commerce is by means of commissions, is clearly evident from the fact that in thirty-one States that method is now in vogue. Even in most States where there has been a popular demand for the establishment of maximum freight rates, the duty of fixing them has generally been placed with commissions. In Wisconsin and in Iowa, statutory maximum-rates schedules, on account of very unsatisfactory results to the people, were repealed and the commission system substituted. In an endeavor to show the beneficial results of this system of regulation, this board cannot do better than to use language of certain eminent, close students of the transportation question.

Hon. Charles Francis Adams, who is acknowledged as among the foremost in knowledge upon the subject, in answering a letter of inquiry from the Chairman of the Committee of Railroads, of the Massachusetts House of Representatives, said:

"I have to acknowledge the receipt of your favor of the 11th inst., relating to a reorganization of the Board of Railroad Commissioners, and requesting me to give the committee my views generally in relation to that board, the number of its members, their duties, compensation, etc. I do this with the more freedom as, for reasons already known to the committee, the matter is one in which I do not feel that I have any longer a personal interest. My connection with the board is practically over. I do not propose to remain a member of it longer than is absolutely necessary for me to complete the work it now has on hand growing out of the National Convention of Railroad Commissioners, recently held. This cannot occupy more than a year, or eighteen months at most. So far as I am concerned, therefore, no action that the present Legislature can take will more than hasten a result which I am myself very anxious to bring very speedily about. As the gentlemen of the committee are aware, I have been a member of the board ever since its original organization—ten years ago in June next. I am therefore quite fully acquainted with the policy which has been pursued in developing its work, and have very distinct ideas as to the course which should be pursued by those who may compose it in the future.

"I desire also to say that it is an entire mistake to suppose that the duties of the board are diminishing as its work becomes systemized; on the contrary, not only are new duties of detail each year imposed on it by the Legislature, but the questions submitted for its action become more numerous and more important as it acquires in a greater degree the confidence of the public and the corporations. Indeed, never before have so many or so important questions required its attention as during the last year.

"Among the duties of the Commissioners, by far the most difficult and delicate are those which arise out of its supervisory functions over questions between the railroad corporations and the community. Its jurisdiction in this respect is, I believe, peculiar to itself. It is compelled to receive all complaints against the railroads of the State, no matter how they may reach it or to what they may relate, or whether coming from communities or individuals, and to investigate and find some remedy for them. In doing this the Commissioners have no power except to recommend and report. Their only appeal is to publicity. The board is at once prosecuting officer, judge, and jury, but with no sheriff to enforce its process. The method of railroad supervision is peculiar to Massachusetts, but I do not hesitate to say that I believe it is the best and most effective method which has ever been devised; the best for the community and the best for the corporations. It needs, I am confident, but to be developed and understood to be universally adopted. In dealing with railroads, as between railroads and individuals, it is futile to talk about laws, declaratory and penal, and the usual process of the courts.

Except in extraordinary cases, the remedy through this process is too slow and too expensive, while the power and wealth of the corporations, as compared with individuals, is too great. It is altogether different proceeding before this commission. There are no technicalities or forms of procedure. The investigation takes place at once and upon the spot, and a conclusion is reached with no unnecessary delay. That conclusion cannot be enforced in law, and carries weight only in proportion to the reasons adduced in its support, but in practical experience the recommendations of the board have almost never been disregarded. It is true they have sometimes been complied with under protest and with utmost reluctance; but they have almost invariably been complied with. First and last they have covered all sorts of questions, from the putting on of a system of trains to the adoption of some improved appliance of safety—questions which could hardly have been reached in any other way.

"I am very confident that this principle of public supervision might be developed so as to work a complete solution of the railroad problem as it presents itself in this country. To do this, however, it must be developed by men who are not only thoroughly competent, but who enjoy the confidence both of the community and of the corporations. If they have not this, they are powerless; if they have it, there is nothing they cannot bring about, no abuse they cannot correct."

The letter of Mr. Adams, of which the foregoing is a part, was written in 1879. At that time the Massachusetts commission had been in existence ten years. It was practically the first body organized for a supervisory control of railroads. The principle asserted by its organization has been extended, to operate in various forms, in thirty-one States, as has been already stated. It has been adopted by Congress, and by foreign governments, so that the opinion of Mr. Adams, elsewhere expressed in his letter, "that efficient boards of commissioners will in the future be found an essential part of the machinery of our government in connection with the railroad system," has been abundantly sustained.

The commissions in existence have been divided into, practically, two classes: The first, supervisory and advisory, the Massachusetts commission being typical of this class, in which are enumerated the commissions of the States of Massachusetts, Connecticut, Vermont, Maine, New York, Ohio, Rhode Island, Michigan, Wisconsin, Virginia, Kentucky, and Colorado, and of the Territory of Arizona—thirteen in number. The commissions of the other classes are supervisory, advisory, and regulative, and exist in the following States: Illinois, Iowa, Minnesota, Kansas, Missouri, California, Alabama, Georgia, South Carolina, Mississippi, New Hampshire, North Dakota, South Dakota, Oregon, Texas, Nebraska, and North Carolina—seventeen in number. Of this class, that of Illinois was the first, and is typical.

In their second annual report, the Iowa Commissioners said:

"Before this system was enacted, suits at law were the sole remedy for unjust charges upon shippers. These suits, conducted at vast expense in the aggregate, were the source alike of exasperating delays and serious annoyance to both complainants and defendants. Oftener than otherwise, these suits were contested through all grades of our courts, and when at last the end was reached, it was an end of each several case only, others of like character and involving like principles following upon its heels. It might be an interesting, as it certainly would be a startling exhibit, could the aggregate annual expenditure from both public treasury and private purse, on account of these suits, be spread before the public. To the commissioners any and all persons aggrieved apply for redress, no matter how small the amount involved, confident of prompt hearing and without expense to themselves. The commissioners are a court of arbitration, its expenses being borne by assessments upon the railroads. Not one suit at law, arising from alleged unjust or discriminative charges, so far as the commissioners have knowledge, has been prosecuted against any railroad company in Iowa since the commissioner system was adopted. All grievances of this character have been referred to this board, and by it investigated and adjudged, the result in every case, with perhaps a single exception, being accepted as final. Moreover, the commissioners are not aware of an instance where any railroad company has persisted in charges that have been complained of after such rates have been held to be unjust or discriminative by the board. The peculiar significance of this comparison between the present system and those which preceded it as to the points of difference here noted, cannot fail to mark the commissioner law as an important improvement in the regulation of railroads. It seems to vastly simplify the relations between the railroads and the public, and to cheapen the cost of adjusting whatever differences or grievances may from time to time be complained of. It is not claimed to be perfect; there is no general system or regulative control that can be of equal satisfaction and value to all the varied interests existing in so large a State as ours, but that no other method of regulation so fully meets all these diversified and important interests on the common grounds of equity, there can be but little question."

Arthur T. Hadley, in his work on "Railroad Transportation," says:

"The really efficient State regulation is now almost entirely under the somewhat discretionary power of commissioners, whether these powers be wide or limited. A hard-and-fast law cannot be enforced."

Frederick C. Clarke uses the following language:

"A single point remains to be noticed here: That the present commission system, in its generic sense, has been brought about by a growth both gradual and steady, and not



by chance, or, as one author declared, by a 'happy guess.' It has arisen and been developed not by the assumption of power, but by the accumulation of it; not from theory, but from necessity; not because wanted by any particular industrial class or section, but because needed and demanded by the whole social, political, and industrial order of society, and of the entire nation. Nor has it maintained itself without a struggle. The results which it has already attained bespeak for it a brighter future. Who can estimate its possibilities?

"Thus it is necessary to recognize the fact that the work of regulating the transportation industry in the United States is not yet complete. The commission has not yet attained its full possibilities; a wide field exists in which to exercise its potential powers and test its ability and strength. The end and aim of the commission system of regulation, both State and National, and the interdependence of both, are yet to be wrought out, as the present success has been—by gradual changes, tentative measures, steady growth toward uniformity, harmony, and coöperation. Its history, however, proves its permanency, and it is safe to conclude that regulation by commission is a sound policy, requiring expansion to secure perfection."

This board has no apology to offer for the ample quotations made, or for the length of this discussion. The commission system of regulation is now one of the permanent institutions of the land. People should be made acquainted with its workings. Its effectiveness will be proportionate to the degree of confidence which the public and the railroads have in those persons with whom is lodged the duty of its administration. To inspire the confidence necessary to effective regulation, it must be demonstrated that the commissioners are actuated by a desire to do equal justice to all interests, and such a desire can be shown only by words and concordant acts. In the long run it will be found that the interests of the public and of the carriers are not widely divergent. The public interest demands efficient service from carriers, extended as equally as possible, to all persons and places, or, in other words, without discrimination. To secure this, reasonable remuneration will undoubtedly be conceded, for upon it, efficient service depends. On the other hand, carriers are necessarily interested in the welfare of those whom they serve, because upon the prosperity of the latter depends their own success, hence they cannot demand more than is reasonable for their services. There is undoubtedly a common ground upon which the two interests can meet, and all efforts should be directed to that end. That great progress in that direction has been made by the working of the commission system is indisputable, and so long as its trend is that way it should be sustained.

The power to be given to commissions has naturally caused much debate. To this board it appears that the power conferred should be limited to what is actually necessary for proper regulation, and that its degree can be determined only by development. There are differences in the temperament of communities and of railroad managers, and what will answer in one locality may not be equally effective in another, although it should be, for rights are the same everywhere. The knowledge acquired by commissioners, through study and experience, would seem to entitle their opinions to some weight, when the degree of power to be conferred is considered; but of course their opinions should not always control, because the tendency of administrative or executive bodies is generally to accumulate power. However, when sustained by proper argument and facts, it is not too much to say that their opinions should govern.

From the political rostrum, in the press, and in official documents, much has been said in Kansas concerning the want of power of this board. As a matter of fact, it ranks among the most powerful of the State commissions. From statistics compiled in 1891, it appears that of the thirty commissions then existing, only thirteen had power to fix, revise, or alter rates, or make schedules of rates, and of the thirteen the Kansas commission was one. It is true that this board cannot of its own motion change rates, but its power so to do can be invoked by complaint, and it can then determine what are reasonable rates, and its findings are *prima facie* evidence of the reasonableness of the rates prescribed. Its power in this direction has been exercised, and, upon appeal to the Supreme Court of the State, has been sustained. The Kansas board is one of fourteen of the thirty State commissions that have power to change the classification of freight traffic. Its other powers are: To hear complaints under oath; to compel the attendance of either party to a complaint; to subpoena witnesses; to institute, in the name of the State, under certain circumstances, proceedings in the courts; to enforce its decisions and orders in relation to the construction of depots, switches, sidetracks, track connections, etc.; to examine the books, accounts, etc., of railroads; to prescribe the form of reports railroads shall make, and to inquire generally into the management or operation of railroads within the State.

The history of the board shows that it has exercised no small degree of power. During the somewhat less than thirteen years of its existence, 1,194 cases against railroads have been formally disposed of by the board. Of these, 253 were dismissed for want of prosecution and for other reasons; 354 were decided in favor of the railroads; 104 were settled by agreements of parties; and 483 were decided against the railroads. Besides these, a large number of matters at issue between the railroads and individual shippers have been adjusted by the board through correspondence and without the formality of an investigation. Not all complaints made against the railroads are brought to the official attention of the members of the board. Hundreds of differences between them and their patrons are annually settled without the intervention of the board, which, but



for its existence, would probably not be so speedily and inexpensively adjusted as they are now. Of the 483 decisions against the railroads, only 22 have been reported as disobeyed. If this record argues anything, it argues that the authority of the board is somewhat effective of good results, and that it is sufficient to cause generally a compliance with the board's decisions.

#### REDUCTION OF RATES.

The contention of the Southern Pacific Company is and has been at all times, that a reduction of rates would be confiscatory of their property, and that the rates as now established and charged are just and reasonable, and as low as they could be made so that the company would be enabled to pay operating expenses, fixed charges, interest, etc.

The Commissioners did not adopt the resolution making a reduction of 15% and 20%, as proposed, but did, after a long and careful examination and consideration of the question, make, by unanimous vote, a reduction of 8% upon all grain rates as then in force and being charged upon all shipments of grain from the interior to tide-water, over the roads of the Southern Pacific Company.

The company claimed that this reduction would be confiscatory of their property, and that it was unreasonable and unjust; therefore, they commenced an action restraining this Board from enforcing compliance with said order reducing rates.

Since the commencement of said action above referred to, the San Francisco & San Joaquin Valley Railway Company has been constructed, and is now in successful operation from Stockton to Fresno, a distance of 125 miles, carrying both freight and passengers, and affording additional transportation facilities to the farmers and business community generally of that rich and fertile country through which the road is operated. It is paralleled on each side for the whole distance from Stockton to Fresno by railroads owned and operated by the Southern Pacific Company. As soon as the Valley Road was so far completed as to enable it to transport to market the grain crop of the section of country through which it passes, the following schedule of grain rates was submitted to this Commission, and, after consideration, were approved and adopted:

## GRAIN IN CARLOADS OF 24,000 LBS. AND UPWARDS.

SAN FRANCISCO &amp; SAN JOAQUIN VALLEY RAILWAY CO.

(In cents per ton of 2,000 lbs.)

Miles to Stockton..	From--	To Stockton and Warehouses within Stockton City limits to which access is provided for cars of the S. F. & S. J. V. Ry. Co.	To San Francisco, Nevada Dock, Port Costa, Crockett, Benicia, and South Vallejo, including unloading at des- tination.
10.4	Burnham.....	50	100
21.3	Escalon.....	80	130
30.1	Clauston.....	110	160
33.7	Empire.....	110	160
37.0	Hughson.....	125	175
43.2	Elmwood.....	140	190
60.1	Gracey.....	170	220
66.7	Merced.....	170	220
72.3	Turner.....	175	225
75.6	Geneva.....	180	230
78.5	Burchell.....	185	235
81.4	Le Grand.....	185	235
87.1	Marguerite.....	190	240
90.3	Laugenour.....	190	240
92.5	Sharon.....	190	240
96.7	Miller.....	200	250
103.3	Lankershim.....	200	250
108.7	Patterson.....	205	255
-----	The "Y" (a temporary switch).....	205	255
117.2	Bullard.....	215	265
124.7	Fresno.....	215	265

The following table, inserted for comparison, will show the grain rates as charged by the Southern Pacific Company in September, 1895, the rates as fixed by the Railroad Commissioners, and those now charged by that company, from and to stations given therein:

GRAIN C. L. MIN. WT. 24,000 LBS.

(In cents per

BETWEEN (Except as noted)	AND									
	San Francisco.			Oakland Wharf.			Port Costa, Nevada Dock.			
	In Effect Sept. 17, 1895	R. R. (Com'rs Grain Tariff No. 1 (9-17-95))	In Effect Nov. 9, 1895	"C" L.—R. 1,000	In Effect Sept. 17, 1895	R. R. (Com'rs Grain Tariff No. 1 (9-17-95))	In Effect Nov. 9, 1895	"C" L.—R. 1,000	In Effect Sept. 17, 1895	R. R. (Com'rs Grain Tariff No. 1 (9-17-95))
	In Effect Sept. 17, 1895	In Effect Nov. 9, 1895	In Effect Nov. 9, 1895	In Effect Sept. 17, 1895	In Effect Nov. 9, 1895	In Effect Nov. 9, 1895	In Effect Sept. 17, 1895	In Effect Nov. 9, 1895	In Effect Sept. 17, 1895	In Effect Nov. 9, 1895
San Francisco				50	45	50			50	45
Oakland Wharf	50	45	50				50	45	50	45
Oakland (16th St.)	50	40	50		45	40	50	45	50	45
Emery	50	45	50		50	45	50	45	50	45
Shell Mound	50	45	50		50	45	50	45	50	45
Stock Yards	50	45	50		50	45	50	45	50	45
Standard Soap Co.'s Switch	50	45	50		50	45	50	45	50	45
West Berkeley	50	45	50		50	45	50	45	50	45
Fleming	50	45	50		50	45	50	45	50	45
Nobel	50	45	50		50	45	50	45	50	45
Stege	50	45	50		50	45	50	45	50	45
San Pablo	50	45	50		50	45	50	45	50	45
Giant	50	45	50		50	45	50	45	50	45
Sobrante	50	45	50		50	45	50	45	50	45
Pinole	50	45	50		50	45	50	45	50	45
Hercules	50	45	50		50	45	50	45	50	45
Rodeo	50	45	50		50	45	50	45	50	45
Tormery	50	45	50		50	45	50	45	50	45
Selby	50	45	50		50	45	50	45	50	45
Vallejo Junction	50	45	50		50	45	50	45	45	40
Crocketts	50	45	50		50	45	50	45	25	25
Eckley	50	45	50		50	45	50	45	25	25
Grangers Siding	50	45	50		50	45	50	45	25	25
Port Costa	50	45	50		50	45	50	45		
Nevada Dock	50	45	50		50	45	50	45	25	25
Martinez	65	60	65		65	60	65	65	35	30
Avon	75	70	75		75	70	75	75	40	35
Banta	175	160	150		170	155	150	150	125	115
San Joaquin Bridge	175	160	150		170	155	150	150	125	115
Lathrop	175	160	150	115	170	155	150	115	125	115
French Camp	175	160	150	115	170	155	150	115	125	115
Stockton	175	160	150	115	170	155	150	115	125	115
Charleston	200	185	150	115	200	185	150	115	150	140
Walthall	200	185	150	115	200	185	150	115	150	140
Holden	200	185	150	115	200	185	150	115	150	140
Peters	200	185	150	115	200	185	150	115	150	140
Waverly	245	225	165	160	245	225	165	160	195	180
Milton	250	230	190	180	250	230	190	180	200	185
Farmington	225	205	160	115	225	205	160	115	175	160
Trigo	240	220	170	135	240	220	170	135	190	175
Cometa	250	230	180	150	250	230	180	150	200	185
Clyde	250	230	180	150	250	230	180	150	200	185
Burnett	260	240	195	160	260	240	195	160	210	195
Oakdale	260	240	210	175	260	240	210	175	210	195
Charibel	270	250	210	175	270	250	210	175	220	200
Waterford	280	260	210	185	280	260	210	185	230	210
Hickman	290	265	225	195	290	265	225	195	240	220
Montpellier	295	270	240	215	295	270	240	215	245	225
Ryer	300	275	255	235	300	275	255	235	250	230
Arundel	300	275	270	250	300	275	270	250	250	230
Amsterdam	300	275	270	260	300	275	270	260	250	230
Yarnmouth	190	175	190		190	175	190		140	130
Vernalis	200	185	200		200	185	200		150	140
Cowell	205	190	205		205	190	205		155	145
Westley	205	190	205		205	190	205		155	145
Emerald	230	210	230		230	210	230		180	165
Crow's Landing	245	225	245		245	225	245		195	180
Newman	250	230	250		250	230	250		200	185
Gustine	265	245	265		265	245	265		215	200
Linora	270	250	270		270	250	270		220	200

† Station discontinued. Rates ticked thus † apply in one direction, i. e., to San Francisco, etc.



SOUTHERN PACIFIC COMPANY.

ton of 2,000 lbs.)

AND													
Benicia.		South Vallejo.		Sacramento.		Stockton.		Marysville.					
In Effect Sept. 17, 1893.	R. R. Com's Grain Tariff No. 1 (9-17-95)	In Effect Nov. 9, 1896	R. R. Com's Grain Tariff No. 1 (9-17-95)	In Effect Nov. 9, 1896	R. R. Com's Grain Tariff No. 1 (9-17-95)	"C" L-R, 1,001-----	In Effect Sept. 17, 1893	R. R. Com's Grain Tariff No. 1 (9-17-95)	In Effect Nov. 9, 1895	R. R. Com's Grain Tariff No. 1 (9-17-95)	In Effect Sept. 17, 1895	In Effect Nov. 9, 1896	
75	70	75	90	80	200	185	200	175	160	175	250	230	250
75	70	75	90	80	195	180	195	170	155	170	250	230	250
75	70	75	90	80	190	180	190	165	150	165	250	230	250
75	70	75	90	80	185	175	185	160	145	160	250	230	250
75	70	75	90	80	180	170	180	155	140	155	250	230	250
75	70	75	90	80	175	165	175	150	135	150	250	230	250
75	70	75	90	80	170	160	170	145	130	145	250	230	250
75	70	75	90	80	165	155	165	140	125	140	250	230	250
75	70	75	90	80	160	150	160	135	120	135	250	230	250
75	70	75	90	80	155	145	155	130	115	130	250	230	250
75	70	75	90	80	150	140	150	125	110	125	250	230	250
75	70	75	90	80	145	135	145	120	105	120	250	230	250
75	70	75	90	80	140	130	140	115	100	115	250	230	250
75	70	75	90	80	135	125	135	110	95	110	250	230	250
75	70	75	90	80	130	120	130	105	90	105	250	230	250
75	70	75	90	80	125	115	125	100	85	100	250	230	250
75	70	75	90	80	120	110	120	95	80	95	250	230	250
75	70	75	90	80	115	105	115	90	75	90	250	230	250
75	70	75	90	80	110	100	110	85	70	85	250	230	250
75	70	75	90	80	105	95	105	80	65	80	250	230	250
75	70	75	90	80	100	90	100	75	60	75	250	230	250
75	70	75	90	80	95	85	95	70	55	70	250	230	250
75	70	75	90	80	90	80	90	65	50	65	250	230	250
75	70	75	90	80	85	75	85	60	45	60	250	230	250
75	70	75	90	80	80	70	80	55	40	55	250	230	250
75	70	75	90	80	75	65	75	50	35	50	250	230	250
75	70	75	90	80	70	60	70	45	30	45	250	230	250
75	70	75	90	80	65	55	65	40	25	40	250	230	250
75	70	75	90	80	60	50	60	35	20	35	250	230	250
75	70	75	90	80	55	45	55	30	15	30	250	230	250
75	70	75	90	80	50	40	50	25	10	25	250	230	250
75	70	75	90	80	45	35	45	20	5	20	250	230	250
75	70	75	90	80	40	30	40	15	0	15	250	230	250
75	70	75	90	80	35	25	35	10	0	10	250	230	250
75	70	75	90	80	30	20	30	5	0	5	250	230	250
75	70	75	90	80	25	15	25	0	0	0	250	230	250
75	70	75	90	80	20	10	20	0	0	0	250	230	250
75	70	75	90	80	15	5	15	0	0	0	250	230	250
75	70	75	90	80	10	0	10	0	0	0	250	230	250
75	70	75	90	80	5	0	5	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75	90	80	0	0	0	0	0	0	250	230	250
75	70	75											

\* From or to Stockton Wharf. Rates ticked thus † apply in one direction, *i. e.*, to San Francisco, etc.

GRAIN C. L. MIN. WT. 24,000 LBS.

(In cents per

BETWEEN (Except as noted)	AND								
	San Francisco.			Oakland Wharf.			Port Costa, Nevada Dock.		
	In Effect Sept. 17, 1895	R. R. Com'rs Grain Tariff No. 1 (9-17-95)	In Effect Nov. 9, 1896	"C" L.—R, 1,000 .....	In Effect Sept. 17, 1895	R. R. Com'rs Grain Tariff No. 1 (9-17-95)	In Effect Nov. 9, 1896	R. R. Com'rs Grain Tariff No. 1 (9-17-95)	In Effect Nov. 9, 1896
Ingomar	275	255	275	.....	275	255	275	.....	225
Volta	280	260	280	.....	280	260	280	.....	230
Los Banos	285	260	285	.....	285	260	285	.....	235
Agatha	300	275	300	.....	300	275	300	.....	250
Dos Palos	300	275	300	.....	300	275	300	.....	250
Oxalis	300	275	300	.....	300	275	300	.....	250
Firebaugh	310	285	310	.....	310	285	310	.....	260
Mendota	320	295	315	.....	320	295	315	.....	270
White's Bridge	320	295	315	.....	320	295	315	.....	270
Jamesau	330	305	315	.....	330	305	315	.....	280
Collis	340	315	315	.....	340	315	315	.....	290
Rolinda	340	315	315	.....	340	315	315	.....	290
Pratton	350	320	315	.....	350	320	315	.....	300
McMullin	340	315	325	.....	340	315	325	.....	290
Ormus	350	320	330	.....	350	320	330	.....	300
Caruthers	360	330	340	.....	360	330	340	.....	310
Cando	360	330	360	.....	360	330	360	.....	310
Lillis	360	330	360	.....	360	330	360	.....	310
Hardwick	365	335	365	.....	365	335	365	.....	315
Morrano	200	185	170	135	200	185	170	135	150
Ripon	210	195	180	150	210	195	180	150	160
Salida	230	210	205	160	230	210	205	160	180
Modesto	250	230	210	175	250	230	210	175	200
Ceres	260	240	225	195	260	240	225	195	210
Keyes	260	240	235	210	260	240	235	210	210
Turlock	275	255	240	215	275	255	240	215	225
Delhi	280	260	255	220	280	260	255	220	230
Livingston	280	260	265	235	280	260	265	235	230
Arena	285	260	265	245	285	260	265	245	235
Atwater	295	270	270	250	295	270	270	250	245
Buhach Switch	300	275	270	260	300	275	270	260	250
Ashby	300	275	270	270	300	275	270	270	250
Merced	300	275	270	275	300	275	270	275	250
Lingard	300	275	280	.....	300	275	280	.....	250
Athlone	300	275	285	.....	300	275	285	.....	250
Minturn	310	285	290	.....	310	285	290	.....	260
Califa	320	295	290	.....	320	295	290	.....	270
Berenda	320	295	300	.....	320	295	300	.....	270
Talbot	330	305	300	.....	330	305	300	.....	280
Daulton	330	305	300	.....	330	305	300	.....	280
Herbert	340	315	315	.....	340	315	315	.....	290
Raymond	340	315	315	.....	340	315	315	.....	290
Madera	330	305	300	.....	330	305	300	.....	280
Borden	330	305	305	.....	330	305	305	.....	280
Irrigosa	330	305	305	.....	330	305	305	.....	280
Herndon	340	315	305	.....	340	315	305	.....	290
Muscatel	340	315	315	.....	340	315	315	.....	290
Fresno	350	320	315	.....	350	320	315	.....	300
Barton's Spur	350	320	350	.....	350	320	350	.....	300
Las Palmas	360	330	360	.....	360	330	360	.....	310
Egger's Spur	360	330	360	.....	360	330	360	.....	310
Tarpey's Spur	360	330	360	.....	360	330	360	.....	310
Cloviss	360	330	325	.....	360	330	325	.....	310
Gordon	365	335	325	.....	365	335	325	.....	315
Pollasky	365	335	340	.....	365	335	340	.....	315

Rates ticked thus † apply in one direction, i. e., to San Francisco, etc.

## SOUTHERN PACIFIC COMPANY.

ton of 2,000 lbs.)

AND

Benicia.		South Vallejo.		Sacramento.		Stockton.		Marysville.	
In Effect Sept. 17, 1895.	R. R. Com'rs Grain Tariff No. 1 (9-17-95)	In Effect Nov. 9, 1896.	R. R. Com'rs Grain Tariff No. 1 (9-17-95).	In Effect Sept. 17, 1895.	R. R. Com'rs Grain Tariff No. 1 (9-17-95).	"C" I.-R. 1,001-----	In Effect Nov. 9, 1896.	R. R. Com'rs Grain Tariff No. 1 (9-17-95).	In Effect Nov. 9, 1896.
225	205	225	205	225	210	160	145	360	330
230	210	230	210	230	215	165	150	365	335
235	215	235	215	235	220	170	155	370	340
250	230	250	230	250	235	185	170	385	355
250	230	250	230	250	235	185	170	385	355
250	230	250	230	250	235	185	170	385	355
260	240	260	240	260	245	195	180	395	365
270	250	265	270	265	255	205	190	405	375
270	250	265	270	265	255	205	190	405	375
280	260	265	280	265	265	215	200	415	380
290	265	265	290	265	275	225	205	425	390
290	265	265	290	265	275	225	205	425	390
300	275	275	300	275	285	235	215	435	400
300	275	275	300	275	285	235	215	435	400
310	285	290	310	290	295	245	225	445	410
310	285	310	310	295	270	245	225	445	410
310	285	310	310	310	295	245	225	445	410
315	290	315	315	315	300	250	230	450	415
150	140	120	150	140	135	85	80	285	260
160	145	130	160	145	135	95	85	290	270
180	165	155	180	165	155	115	105	315	290
200	185	160	200	185	165	135	125	335	310
210	195	175	210	195	175	145	135	345	315
210	195	185	210	195	185	145	135	345	315
225	205	190	225	205	190	160	145	360	330
230	210	205	230	210	205	165	150	365	335
230	210	215	230	215	215	165	150	365	335
235	215	215	235	215	220	170	155	370	340
245	225	220	245	225	230	180	165	380	350
250	230	220	250	230	235	185	170	385	355
250	230	220	250	230	235	185	170	385	355
250	230	220	250	230	235	185	170	385	355
250	230	235	250	235	235	185	170	385	355
260	240	240	260	240	245	195	180	395	365
270	250	240	270	250	245	205	190	405	375
270	250	250	270	250	255	205	190	405	375
280	260	250	280	260	255	215	200	415	380
280	260	250	280	260	255	215	200	415	380
290	265	265	290	265	265	225	205	425	390
290	265	290	265	290	275	225	205	425	390
290	265	290	265	290	275	225	205	425	390
290	265	290	265	290	275	225	205	425	390
300	275	265	300	275	285	235	215	435	400
300	275	300	300	285	260	235	215	435	400
310	285	310	310	295	270	245	225	445	410
310	285	310	310	295	270	245	225	445	410
310	285	310	310	295	270	245	225	445	410
310	285	310	310	295	270	245	225	445	410
315	290	315	315	300	275	250	230	450	415
315	290	315	315	300	275	250	230	450	415

Rates ticked thus † apply in one direction, i. e., to San Francisco, etc.



Comparison of the grain schedule of the San Francisco and San Joaquin Valley Railway Company, with the rates adopted and published by the Commission, demonstrates that the new road, in many instances, adopted the official rate, being a reduction of about 8% from the rates charged by the Southern Pacific Company between Stockton, Fresno, and intermediate points prior to the completion of the San Francisco & San Joaquin Valley Road.

In addition to the above noted reduction, the San Francisco & San Joaquin Valley Railway Company abolished the switching charge of 15 cents per ton at Stockton, as charged by the Southern Pacific Company, prior to the operation of the Valley Road.

The Valley Road supplemented these reductions by making arrangements with water transportation companies whereby grain that is shipped from stations on the Valley Road can be transported to Port Costa or San Francisco for 50 cents per ton additional, to either point, being a reduction of 50 cents per ton from Stockton to San Francisco upon rates charged by the Southern Pacific between said points.

Notwithstanding the contention made by the Southern Pacific Company in the case now pending before the United States Circuit Court, and at all times to this Board, that the rates then established and charged were as low as could be made, and pay a reasonable profit, and that the reduction as proposed, if adopted, would entail upon the company losses so great that they could not operate, and that the company would be thrown into insolvency and their railroads and other property placed in the hands of a receiver: Immediately, upon the opening of the Valley Road, and the adoption and publishing of a schedule of grain rates in conformity with the rates established by this Board, the same being a reduction of 8% from former rates, the Southern Pacific Company did reduce the rates from Port Costa and Stockton to all stations on their respective roads that are in competition with the San Francisco & San Joaquin Valley Railway. The rates so made by the Southern Pacific Company are, in many instances, lower than the rates established by this Board, which were by them declared and charged to be unjust, unreasonable, and confiscatory.

The reductions above referred to as made by the Southern Pacific Company will average more than 15% lower than the rates of January 1, 1895, being a greater reduction than the original resolution asking for an average reduction of 15% on the grain rates of 1895.

With a competing road running from Stockton to Fresno, having water connections with Port Costa and San Francisco, the business being divided; a short crop, with less tonnage to move; and with a material reduction in rates, averaging (including the abolishing of the switching charges at Stockton) more than 15% from former rates, the Southern Pacific Company is still being run, presumably, at a profit, and we have not yet heard that it is unable to pay its current expenses, fixed charges, etc., or that from this slight reduction and competition it is likely to become insolvent and pass into the hands of a receiver.

The reduction proposed in grain rates, if accepted by the company and enforced, would have saved to the grain-shippers of the State an amount equal to the expense of maintaining the Railroad Commission since its organization.

## STREET RAILROADS.

Section 22, Article XII of the State Constitution, provides that the Railroad Commission shall have the power, and it shall be their duty, to establish rates of charges for the transportation of passengers and freights by railroad or other transportation companies, etc.

Subdivision One of Section 14 of an Act defining the powers of the Railroad Commission is as follows: "The term 'transportation companies' shall be deemed to mean and include all companies owning and operating railroads (other than street railroads) within the State."

By this Act it would appear that it was the intention of the Legislature to remove from the Commission, so far as they had power, all consideration and control of street railroads.

While the Legislature may grant the Commission additional power to aid it in the discharge of its duties, and to carry out the intention of the Constitution, can it curtail or restrict its powers and jurisdiction, or take from it that control which the Constitution evidently intended it should have?

The important question arises, what are street railroads? Are they confined to the corporate limits of a city or town, carrying passengers only, from one point to another, and confined to the public streets thereof, or do they include all railroads operated upon the streets of a city or town, passing upon the public highways through the country, from one city or town to another, carrying the mail, express matter, passengers, and possibly freight? Are they not transportation companies as contemplated by the Constitution, and should not they also be under the control of the Commission, or should they be subject only to the control of the city and county authorities in whose locality they are in operation?

These are questions of much importance, and should be judicially determined at an early day.

Since the introduction of electricity as a motor power, railroads operated by it have multiplied very rapidly, not only in the cities, but throughout the whole country. They have already taken the place of most of the roads operated by horse-power, and are fast superseding those operated by steam in many localities. Electric power seems to be especially adapted and desirable for local express and passenger traffic. With it roads will be enabled to operate frequent trains of one or two cars with a small expense, thereby giving a fair distribution of the traffic over their lines at hours that will suit the convenience of their patrons and the public generally.

In a few years our State will be traversed in all directions, and our county roads occupied, by electric railroads carrying freight and passengers. Should they be considered transportation companies and subjected to the control of the Railroad Commission?

Complaints have been made to this Commission of the high rates charged by some of the street railroads of the City of San Francisco, and we have been petitioned by the residents of that city to cite the managers of said roads to appear before the Commission and show cause why their rates of passenger fare should not be reduced, and that they be required to report to this Board a full and detailed statement of the condition of their organization, their capital stock, indebtedness

(funded or otherwise), cost of construction, maintenance, and operating, gross and net receipts, etc.

In pursuance of said petition, the Commission duly made an order citing the manager of the Market Street Railway Company to appear before them with the necessary books, papers, etc., as required by said order. In answer to said citation, said manager, accompanied by his attorney, appeared before this Commission and refused to comply with said order, on the ground that this Commission had no jurisdiction over street railroads.

The Legislature, by the passage of the Act hereinbefore referred to, in defining the term "transportation companies" obviously intended to remove from the control of this Commission the right to regulate fares upon street railroads, seemingly in conflict with the true intent of the Constitution.

By reason of the apparent conflict of said Act with our Constitution, this Board has not attempted to exercise control over street railroads.

The legal status of the Commission in this respect not having been satisfactorily determined, and its powers upon the subject being in doubt, the question was referred to the Attorney-General of this State for his opinion.

The petition on file and the opinions asked for by this Commission from the Attorney-General in said matter are as follows:

#### PETITION.

WHEREAS, The present management of the Market Street Railway Company have determined, in utter disregard of the safety, convenience, and rights of the traveling public of this city and county, to so conduct their system as to wrench from the people all that the traffic will bear; and have, by their manner of restriction, so surrounded the transfer system of their company with inconveniences and annoyances as to render the same of practically little convenience; and,

WHEREAS, Said company had, by the abandonment of parts of its franchise and its refusal to run cars on many parts of its lines at times, suitable to the convenience of the public, greatly injured and decreased the value of realty in this city and county; and,

WHEREAS, The amount of revenue received from said system is much more than sufficient to furnish a just and reasonable compensation to the owners thereof for the service rendered; and,

WHEREAS, Section 22 of Article XII of the Constitution of this State, defining the powers of Railroad Commissioners, provides "said Commissioners shall have the power, and it shall be their duty, to establish rates of charges for the transportation of passengers and freight by railroad or other transportation companies, and publish the same from time to time with such changes as they may make"; and,

WHEREAS, No authority exists in the Legislature to limit or take from the powers conferred upon said Commissioners by the organic law of the State; therefore, be it

*Resolved*, That we demand of said Railroad Commissioners that they proceed at once to establish rates of charges for the transportation of passengers on the various street railroads of the City and County of San Francisco, and that a committee of three members of this club be appointed by the Chair for the purpose of presenting these resolutions to said Board of Railroad Commissioners, and taking such action in the matter as they may deem expedient and proper; and further be it

*Resolved*, That in the opinion of this club the present rate of such charges could reasonably be reduced to 3 cents per trip, without transfers.

#### OPINION OF ATTORNEY-GENERAL.

SAN FRANCISCO, June 25, 1896.

*Honorable Board of Railroad Commissioners, Chronicle Building, San Francisco, Cal.:*

GENTLEMEN: I am in receipt of your communication relative to your right to regulate the fares charged for the transportation of passengers by street railways within cities and towns, or between two towns, in this State. In reply, I desire to state:

In view of the resolution adopted by your Board at your last meeting, requesting me to take such steps as may be necessary to test your right to regulate the fares charged by street railways for the transportation of passengers, it becomes unnecessary for me to answer your former letter requesting an opinion upon that subject. I will, however,



comply with the request contained in your resolution whenever you lay the proper legal foundation for a test case. This, in my opinion, you have not as yet done, and I will, if you so desire, prepare such papers to be served by you as I deem essential for that purpose.

Respectfully,

(Signed:) W. F. FITZGERALD,  
Attorney-General.

OPINION OF ATTORNEY-GENERAL.

SAN FRANCISCO, October 6, 1896.

*Honorable Board of Railroad Commissioners of the State of California, Chronicle Building, San Francisco, Cal.:*

GENTLEMEN: I am in receipt of your favor of the 15th ult., in which you state that your Board determined to proceed with the investigation of the affairs of the Market Street Railway Company, a corporation organized and existing under the laws of this State, owning and operating various lines of street railways over and upon the streets of the City and County of San Francisco, upon which passengers are transported, and fares for such transportation collected, with the view to the fixing, by your Board, of rates of charges to be collected by said Market Street Railway Company, for such services; that accordingly such investigation was set for hearing on the 7th ult.; that prior to the date of such hearing your Board issued its subpoena, the form of which was prepared by me at your request, directed to Joseph L. Willcutt, Secretary of said Market Street Railway Company, requiring him to appear as a witness before your Board for the time fixed for the hearing of said matter, and to produce and bring with him at said time, to be used on said investigation, certain books and papers of said Market Street Railway Company, then in his possession as the Secretary thereof, containing matter and evidence material on said investigation; that such subpoena was regularly served upon Joseph L. Willcutt prior to the time set for such hearing, and return thereof duly made; that your Board met on the 7th ult. at its office in this city, and proceeded to take up said investigation; that the said Joseph L. Willcutt at that time appeared before your Board, with his attorney, and denied the authority of your Board to enter upon such investigation, or to subpoena him as such witness, or require him to produce the books and papers of the company, and refused to appear as such witness and to produce said books or papers, on the ground that your Board "had no authority to enter into any investigation of the affairs of said company, or to fix rates of fares to be charged by it."

After stating these facts, you ask for my opinion upon the following questions:

"First—Has the Commission the power, and is it its duty, to fix the rates to be charged by said Market Street Railway Company, for the transportation of passengers over the various lines of street railways operated by said Market Street Railway Company, upon and over the streets of the City and County of San Francisco?"

"Second—Has this Commission power to punish for contempt of its power in a case such as that of Joseph L. Willcutt, hereinbefore set forth, and if so, what proceedings will it be necessary to take in that regard?"

First—In reply to your first question, I desire to call your attention to an opinion rendered by me to your Board on June 25, 1896, in which I said:

"In view of the resolution adopted by your Board at your last meeting, requesting me to take such steps as may be necessary to test your right to regulate the fares charged by street railways for the transportation of passengers, it becomes unnecessary for me to answer your former letter requesting an opinion upon that subject. I will, however, comply with the request contained in your resolution whenever you lay the proper legal foundation for a test case. This, in my opinion, you have not as yet done; and I will, if you so desire, prepare such papers to be served by you as I deem essential for that purpose."

I also desire to call your attention to the fact that on July 14, 1896, you wrote to me requesting that I prepare for service by you a blank form of subpoena directed against the Market Street Railway Company, requiring it to produce such of its books, records, and papers as would show certain matters specified in that letter, and that thereafter I prepared, and on July 25, 1896, transmitted to you, "a blank form of subpoena to be served by you upon such officer or officers of the Market Street Railway Company" as you might desire to examine, "requiring them to produce such books, records, and papers" as would show the matter specified in your favor of July 14th. I also instructed you, in the letter transmitting the blank form of subpoena, that before serving, it was essential that your Board "make an order directing the Secretary of the Board to issue the same and cause it to be served."

I assume that you have so far proceeded in accordance with these instructions, and that the proceedings referred to in your letter of the 15th ult. were had in conformity therewith, and for the purpose of laying the proper legal foundation for a test case.

If I am correct in this assumption, I am at a loss to understand why, at this stage of the proceedings, you should request an opinion from me upon a question which you have already determined to submit to the court, and for the submission of which you have in accordance with my advice apparently taken every necessary step.

Wherefore, an opinion from me upon this subject at this time and under these circumstances, could serve no useful purpose whatever.

If you will furnish me with certified copies of the minutes of your Board, showing all steps that have been taken by you concerning this matter (and particularly the order of your Board authorizing your Secretary to issue the subpoena and cause it to be served), together with certified copies of the subpoena prepared from the form furnished you by me, and served by you upon the Secretary of the Market Street Railway Company, and of the return made upon such subpoena, I will proceed at once to prepare a petition for a writ of mandate for the purpose of bringing the question of your right to regulate the fares of this company to an early determination. This, in my opinion, is the proper way to proceed.

*Second*—I am of the opinion that, under the provisions of Section 22 of Article XII of the Constitution, your Board has the power and authority to punish for contempt of its orders and processes "in the same manner and to the same extent as courts of record"; but I do not think that it would be advisable for you to proceed for contempt in any case until your authority to regulate the fares of street railways has been judicially determined by the courts.

Respectfully,

(Signed :) W. F. FITZGERALD,  
Attorney-General.

Since the last published report of the Railroad Commission, there has been constructed in California 432.95 miles of line, making a total of 5,061.20 miles now in operation. Reference to the reports of the various companies will show their respective increase of mileage.

Within the past year the number of persons killed or injured in railway accidents reported to this Commission was 499; of this number, 367 were injured without death resulting, and 132 were killed.

Since the organization of the Commission, a great many complaints of excessive charges made by shippers against transportation companies throughout the State have been made. These complaints came in the form of letters, or were verbally made to the Commissioners, and have, in many instances, been satisfactorily adjusted, through the agency of the Board, by correspondence with the various companies, and without the formality of a hearing.

All of which is respectfully submitted.

H. M. LA RUE,  
JAMES I. STANTON,  
W. R. CLARK,  
Railroad Commissioners.

SAMUEL NEWMAN, Secretary.

## TRANSPORTATION OF PERISHABLE PRODUCTS.

On February 13, 1895, the Assembly of California adopted the following resolution:

WHEREAS, The fruit, vegetable, and viticultural industry of the State of California is of such great magnitude as to constitute one of the principal sources of wealth to the people of the State of California; and,

WHEREAS, It is well known that the cost of transporting such products from the points of shipment in this State to the markets of Eastern and other States is generally in excess of the actual profitable cost of transportation; and,

WHEREAS, It is commonly understood that a very large proportion of the charges incident to transportation are occasioned by the use of patented devices; therefore, be it

*Resolved*, That the Board of Railroad Commissioners of the State of California be requested to report to this Assembly, within ten days from this date, a detailed statement of the rates charged for the transportation of the products of the State of California to the Eastern and other markets; and that they advise this Assembly as to what devices are used, and the additional cost of transportation occasioned by the uses of such devices for the preservation of fruit; and to report whether or not it is not possible to provide for the use of equally satisfactory devices or plans at greatly reduced rates; and that they give the Assembly such other information as may enable it to initiate such legislation as will relieve the industries of this State in the greatest degree possible; and that the Chief Clerk of this House be instructed to transmit a copy of this resolution to the Board of Railroad Commissioners forthwith.

Immediately upon receipt of this resolution by the Board, the Chairman called the Commission together in special meeting, February 18th and 19th. A number of prominent fruit-growers, shippers, and transportation officials were invited to be present at said meetings, and were asked to give their opinions in reference to the question of transportation of green fruits and vegetables, also as to the various devices and methods now in use for the purpose of preserving and transporting such products to the Eastern market.

A communication was also addressed to Mr. Wm. H. Mills by the President of this Board, inclosing the above resolution, and asking him to obtain from the Railroad Company a detailed statement as to the cost of transportation in ventilator and refrigerator cars, also as to the time usually consumed between this Coast and the Eastern market, and for such other information as could be obtained as to the various devices used for the preservation of fruits, etc., in transit.

In reply to this request, Mr. J. C. Stubbs, of the Southern Pacific Company, addressed a communication to Mr. Mills, giving him in detail a statement of rates charged, the kinds of cars used, and the various devices that have been experimented with and are now in use, said communication being attached to and made a part of this report.

Mr. Cottier, of the American Ventilating Company, also appeared before the Board, and explained his method of ventilation, for which he claims much merit. Attached you will find his statement.

Mr. William Graves also appeared with a sample of prepared tulle for insulating cars, and fully explained the benefits to be derived from the use of his invention. His communication is also made a part of this report.



Mr. E. F. Adams, ex-Manager, and Mr. B. F. Walton, President of the California Fruit Exchange, also appeared before the Board. Mr. Adams said that the transportation charges were something over the actual cost of train service, though not enough to pay any great amount upon the capital invested. He explained that that class of freight had to be carried at a very small profit. The rates were less than allowed by the Interstate Commerce Commission, and he was of the opinion that if some device could be used whereby the cost of hauling the now heavy refrigerating cars could be avoided, and lighter cars substituted, and the time of five days' service be established, the expense would be so reduced as to afford some profit to fruit-growers and shippers. A reduction of \$125 to \$150 per car would necessarily follow, that is to say, from \$375 to \$250 per car, leaving a margin for the fruit-grower.

Mr. Adams presented a resolution, adopted at the recent Convention of Fruit Exchanges, which is made a part of this report.

This Board is informed that there are various kinds of devices in the East which have never been brought to this coast, and of which we have no knowledge, and cannot get the desired information in the short space of time allotted to us.

The foregoing are the only devices which have been presented for our consideration. If we had further time and means with which to make inquiries, it might be possible to give more definite information on the subject.

The chief objection seems to be the increased weight of the car and of the slow service performed by the transportation companies.

We cannot suggest or recommend the adoption of any device until it has been tried and its efficiency fully demonstrated.

The Railroad Company, so far, has not adopted any particular device, for the reason that a practical demonstration has not been made, to its satisfaction, of the efficiency of any method which would lessen the weight of the cars and diminish the cost of transportation.

The Railroad Company signifies its willingness to assist any person who could improve upon the present cumbersome and expensive mode of shipping fruit in refrigerator cars, and has expended considerable money in experimenting, and will continue to do so. It disclaims owning any interest in these refrigerator cars, and is anxious to discontinue their use, on account of their great weight and expense of hauling, as soon as something better can be obtained.

If the Legislature would adopt some means, either by offering a prize or a premium for competition, for the purpose of securing and obtaining some device, or some means of transportation of fruit which would practically overcome these objections, and then oblige the Railroad Company to own the cars and operate them, it would go far toward adjusting the difficulty by greatly reducing the cost of transportation below the present rates, and afford shippers the necessary relief, and allow them a fair compensation for their products.

It is the intention of this Commission to investigate this subject further during its term of office.

Realizing the great importance of this question, we think that this investigation and inquiry should be extended, and that the Legislature should provide means to enable this Commission, or some other, to make these inquiries, investigations, and actual tests, and report to the Gov-

error from time to time, and have the same incorporated in the report of the Commission when published.

All of which is respectfully submitted.

H. M. LA RUE,  
JAS. I. STANTON,  
W. R. CLARK,  
Railroad Commissioners.

SAN FRANCISCO, CAL., February 16, 1895.

MR. W. H. MILLS, *Land Agent*:

DEAR SIR: Referring to the letter addressed to you by Commissioner H. M. La Rue, under date of February 14th, in which certain information concerning rates on green fruits to the East was asked for, I beg leave to submit the following:

The through rates for green fruits, in carloads, minimum weight per car 20,000 pounds for ventilated cars, and 24,000 pounds for refrigerator cars, are:

<i>To Chicago.</i>	
In ventilator cars .....	\$1 25 per 100 lbs.
In refrigerator cars .....	1 25 per 100 lbs.
<i>To New York City (Jersey City Delivery).</i>	
In ventilator cars .....	\$1 50 per 100 lbs.
In refrigerator cars .....	1 50 per 100 lbs.

The foregoing is for freight-train service. The time from Sacramento to Chicago for ventilated cars, 5 days; for refrigerator cars, 8 days.

By passenger-train the rates to Chicago are, for ventilators, \$2 25 per 100 pounds; for refrigerator cars, \$2 50 per 100 pounds.

The freight-train time to Chicago, which above is placed at 5 days for ventilated cars, is what we undertook to make during the season of 1894, but were interrupted by the strike. The time made ranged, for both ventilators and refrigerators, from 8 to 12 days. We believe, however, that a five days' schedule for ventilator cars can be accomplished. The 8 days' time for refrigerators is all that is necessary and the best that can be done with such heavy cars, required to stop en route for icing. The attempted discrimination in the matter of time in favor of ventilators is founded upon these considerations: First, the ratio of dead weight to paying freight carried by the company when ventilator cars are used, is, upon the average, as 28,000 pounds, average weight of car, is to 20,000 pounds, minimum weight of load. For refrigerator cars the average is 46,546 pounds, average weight of car and ice, to 24,000 pounds, minimum weight of load. The average of dead weight of ventilator cars is from 23,500 pounds to 38,400 pounds. The range of weight of refrigerator cars, with their loads of ice, is from 40,000 pounds to 50,000 pounds.

With the refrigeration, the railroad companies have nothing whatever to do. Shippers contract with the owners or lessees of the refrigerator cars for this service, and the standard charge, as I am informed,

for this service, which includes cost of ice, has been as follows, for freight-train service:

From—	To Chicago.	To New York.
Sacramento and points east .....	\$125 00 per car.	\$175 00 per car.
Points on California Pacific and Western Division ..	140 00 per car.	190 00 per car.
Fresno and south, and Marysville and north .....	150 00 per car.	200 00 per car.

For refrigeration by passenger train an additional charge of \$25 per car is made.

The refrigerator cars are owned by private parties, and are used by the Southern Pacific Company under contract with owners. They are run empty, west bound. On this account and on account of their excessive weight, the Southern Pacific Company pays no rental for their use and charges the refrigerator car companies 25% in addition to its share of the through weight in consideration of handling the excess weight. This amounts to 11 $\frac{3}{4}$  cents per 100 pounds for Chicago destination.

The railroad companies favor the ventilator cars. The reason for this is manifest. The Southern Pacific Company from the beginning endeavored to find the car best suited for the handling of this traffic, and after many expensive experiments adopted its standard ventilator car. It has given the amplest opportunity for experiment with every device or invention that has promised to improve the facilities. For example, it ran over its line, and induced its connections to run, the car known as the Palmer car, which proved to be a failure. It also contributed to the expense of preparing and running what is known as the Allegretti car, which proved a failure. Until within a few years, refrigeration with ice was supposed to be unsuitable to the preservation of fruit. When the proposition to try refrigeration with ice was first made, the consensus of opinion among fruit-growers and fruit-shippers was that it would be a failure. The owner of the refrigerator patent contended against this view, and the Southern Pacific offered him the free use of its line to demonstrate his theory, the result of which has been that the transportation of fruit in cars refrigerated with ice has become quite general. The company has not undertaken the work and responsibility of refrigeration, because it is a business peculiar to itself, requiring expert knowledge and special care, which the organization of railroad companies in nowise fits them to perform satisfactorily. It does not own refrigerator cars, for the reason that it has believed, in the first place, that the kind of car and method of refrigeration are still matters of experiment, both as to whether ice is the best and cheapest method of preserving fruit and as to the kind of refrigerator car, even if ice be proven to be the best method of refrigeration, in respect to the kind of insulation and the weight of the car. Few, if any, of the refrigerator cars now in use have been built with special reference to the fruit business of California, and none of them have fairly considered the ratio of dead weight to be hauled to the paying load. In the judgment of the officers of the company, the best car is yet to be built, and when constructed we have no doubt that it will greatly reduce the cost of refrigeration both to the shipper and to the railroad company, the latter by a large reduction in the present enormous weight of the car.



The Railroad Company has experimented on its own account with refrigeration by building a car designed to accomplish the necessary equable temperature without the use of ice, but by evaporation. This was unsatisfactory. It also furnished a car and ran it to New Orleans and back with its load and attendants to test the Perkins patent; but we do not by any means consider the results of that experiment to amount to a demonstration. It has also furnished opportunities for experiment with carbolic acid gas, and stands ready to assist, under proper conditions, in any and every experiment having for its object the improvement and cheapening of methods of transportation of deciduous fruits of the State of California.

At present we believe that for the hardy fruits, with a five days' schedule to Chicago, ventilator cars offer the very cheapest and best method of transportation, and our best endeavors will be put forth to make the five days' schedule. For delicate and fully ripe fruits, unquestionably the experience of the past proves that refrigeration by ice is the best method so far determined, but the latter is very expensive, both to the carrier and to the shipper. In our judgment the charges for refrigeration have been too great, affording the refrigerator companies a profit entirely out of proportion to the investment and service, but this is simply an opinion, and possibly does not take into full consideration the interests of the refrigerator car companies.

If refrigeration by compressed air on lines similar to those of the Perkins patent is demonstrated to be perfect, next to the use of ventilator cars that undoubtedly promises the cheapest method of handling these fruits, providing the cars used can be reduced in weight so as not to exceed a maximum of 30,000 pounds, which, it is believed, is possible. The experiment made in the run to New Orleans and back was with one of the heaviest and most perfectly insulated refrigerator cars. The use of the compressed-air scheme in order to effect the utmost economy would require shipments to be made in trainloads, and it would be necessary for all the railroads hauling the cars, or trains, to equip their engines so as to furnish the compressed air. This could probably be arranged for on the main lines between Sacramento and Chicago, but for points in outlying districts, off the line, and for shipments in less than trainloads, there would be many embarrassments, if it would not prove to be impracticable. The experiment of a single car or a single train would not be final or conclusive.

The importance of the fruit industry to the State of California is incalculable, and the difficulty of finding a market for the fresh fruit will increase in almost arithmetical ratio to the increase in the product. The railroad companies consider their charges for the carriage of the fruit have about reached the minimum—that is to say, their charges are as low as they can reasonably afford to make them, and the speed of the trains, taking as an example the five days' schedule for ventilator cars, which it is proposed to undertake this year, is as high as can be obtained with safety.

The importance of this is so great that it seems to me the whole State of California is interested in it, and that the fruit-growers may reasonably ask at the hands of the Legislature an appropriation for the purpose of experimenting and determining the best method of preservation of fruit in transit, or at least that a liberal prize be offered to the inventor of a scheme which should ultimately, and only after a thorough

and complete demonstration, prove to be the best—that best, however, to show a very great improvement in the preserving qualities of the car and the economy to the shipper and carrier by its use.

Yours very truly,

(Signed:) J. C. STUBBS.

(Copy.)

SAN FRANCISCO, February 19, 1895.

*Chairman Railroad Commission of California:*

DEAR SIR: In accordance with your invitation to present to you my method of preserving fruits and California products in transit to the Eastern markets, I beg to say that the most vital thing in connection with a car to successfully transport perishable products in hot weather, as well as cold or freezing weather, is a properly insulated car.

This car must be strong structurally, durable, free from odor, and of a perfect non-heat and non-cold conducting material—a material which can be reduced to a minimum weight, and even below the weight of a ventilator car. It is a fact that empty refrigerator cars (as now used) weigh 40,000 pounds to 46,000 pounds; 10,000 pounds to 12,000 pounds of this weight is used for insulating material. Because of this defective insulation it is necessary to apply different articles to overcome these defects.

These different agencies consist of ventilation, ice, compressed air, carbonic acid gas, and several other less valuable agencies, and their cost is in proportion to the character of insulation used in the construction of the car. Neither of these agencies can be successfully used alone, while a properly insulated car can be built which will greatly reduce the quantity of ice required; while the question of compressed air or gas can only be decided upon further experiments.

There are valuable scientific works treating upon insulating materials, giving in detail the value of every known article in commercial use. These reports will enable one to decide as to the relative merit of each article, while their practical application to the construction of a car has already been demonstrated to you. In this connection we wish to submit a drawing of a car wherein the application of *Patent Prepared Tule* is made.

The total weight of a refrigerator car so prepared will be from 6 to 7 tons less than any refrigerator car now in use. The merits of tule are successfully and practically known, and its application to a car in comparison to the materials now used is as follows: The lightest material now used weighs  $9\frac{1}{2}$  pounds to the square foot,  $3\frac{1}{2}$  inches thick, while tule weighs but 12 ounces to the same thickness. There being some 1,400 square feet in a car to insulate, this material would weigh but 700 pounds above the weight of a freight car, and by reference to the Union Ice Company, who made a practical test of the material used by them. A box was built  $5\frac{1}{2}$  inches thick, another box of the same size was built with  $1\frac{1}{2}$  inches thick of tule as prepared by us. Forty pounds of ice was placed in each box, and exposed to the sun for seven consecutive days. When opened, it was found that the tule-prepared box contained 21 pounds of ice, while in the box prepared by them the ice had entirely melted.

In conclusion, we will say that the application of tulle to a car as made by us is the only practical method of successfully transporting perishable products to Eastern points of shipment.

Very truly yours,

(Signed:) WILLIAM GRAVES.

(Copy.)

SAN FRANCISCO, CAL., February 19, 1895.

*Honorable State Board of Railroad Commissioners:*

GENTLEMEN: In compliance with your request for information concerning the transportation of fruit, we beg to state that we can make such alterations in ordinary box cars, increasing their weight by our proposed application less than 100 pounds additional, and not interfere in any way with the carrying capacity or room in the car. In fact, in any car in which our equipment may be placed, the additional weight of the car will not exceed in any case 100 pounds. By our late plan of ventilation, we have successfully carried fruit and vegetables from Los Angeles to Wichita, Kansas, and also oranges from Los Angeles to Chicago, in our cars without the loss in either case of any of the contents, being found upon delivery of goods mentioned to be in the most perfect condition, free from dust or dirt of any description.

This has been accomplished without the aid of ice, or any other refrigerating or chemical agent. We have letters and affidavits in corroboration of the above statement from C. W. Kouns, Car Service Agent of the Atchison, Topeka & Santa Fe Railway Company at Topeka, Kansas; also from K. H. Wade, General Manager of the Southern California Railway Company, Santa Fe System; also from the Black Diamond Coal Company, and many others who have tested thoroughly, during the last four years, cars ventilated by our process, all of which statements may be verified at your request. The actual expense of making the alteration for carrying fruit and vegetables or other perishable articles will not exceed \$80.

We herewith submit to you some further explanations of our plan and system, printed in our circular.

Yours, very respectfully,

AMERICAN VENTILATING COMPANY,

Per W. T. COTTIER,

General Superintendent American Ventilating Company.

Mr. Adams also laid before the Board a resolution passed by a late Convention of Fruit Exchanges, representing a very large number of growers, expressing their opinion that the railroad companies should assume this service, and thus eliminate the profit now paid to unnecessary third parties. The following is the resolution:

*Resolved*, That in the judgment of this convention the railroads should assume the duty of supplying whatever form of refrigerator cars may be found best, without the intervention of refrigerator companies, thereby making possible at least a reduction of charges equal to the present profits of the refrigerator companies.



Subsequent to the meeting referred to, and the data obtained thereat, the Commissioners examined a refrigerator car of the patent now in general use, with the additional improvement made by Mr. Charles S. Hardy, of San Diego, Cal. Said improvement seems to possess much merit. Mr. Hardy having furnished cut of same, we insert it with his letter of explanation.

SAN DIEGO, October 6, 1896.

HON. H. M. LA RUE, *Chairman Board of Railroad Commissioners:*

DEAR SIR: Find inclosed cut of car, showing my folding ice-tanks, both in an opened and closed position, and if this will serve your purpose, in the publication of your biennial report, I will forward you the cut itself. You asked me to give you all the points regarding this car. There is nothing to offer, so far as refrigeration is concerned, as I have simply embodied the old method, used by all those skilled in the art. The superiority of my device is that the box is composed of hinged sections, arranged and adapted to fold out of the way of the ordinary cargo when not in use as a refrigerator. The ventilator is to be applied when the tanks are thus folded, which allows shippers to load car to its fullest capacity. This point is beneficial to transportation companies, and in some cases is very beneficial to shippers, as, in the shipment of celery and bulky vegetables, shippers are unable to even get the minimum into the ordinary refrigerator cars, owing to the fact that the stationary box takes up about 25% of the car's space. Again, it enables the cars to be returned with a full load of ordinary merchandise.

I believe you are aware that the railroad companies claim that the refrigerator service is very expensive to operate, owing to the fact that cars cannot be used to any advantage except with refrigerated cargoes; hence, you will see that my invention was designed to obviate this waste.

For your information, will say that the St. Louis & San Francisco Railroad Company has adopted my folding-box system, and is now building a number of cars at St. Louis, and equipping them with my folding-tank and ventilating devices, and that the Santa Fe has again taken up the matter and is now remodeling another series of cars.

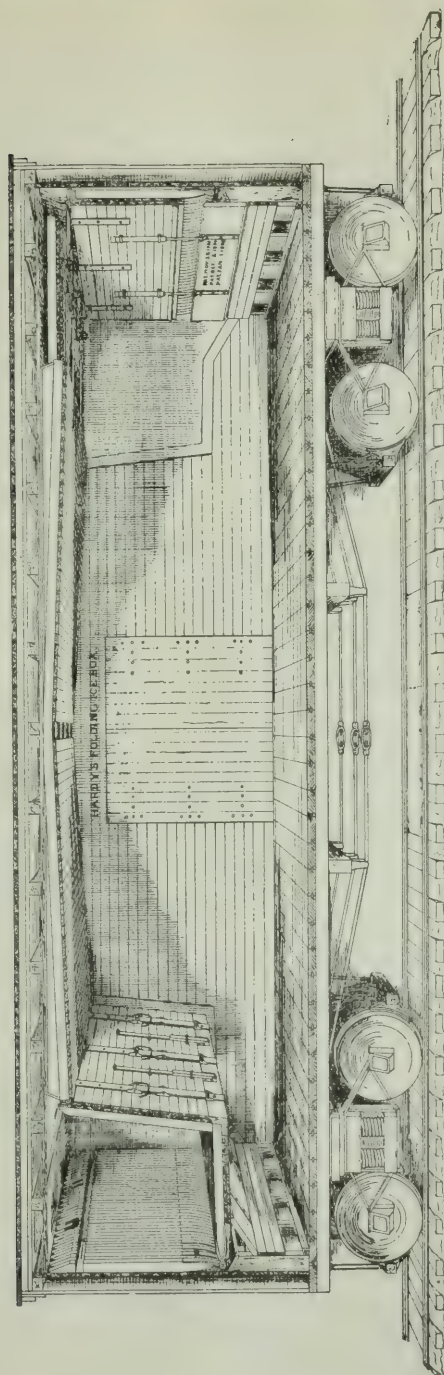
Regarding the temperature record, this was taken and reported by Manager Davis of the Santa Fe Fruit and Refrigerator Line, some three years ago. You will remember this in the correspondence I showed you, when here in San Diego, and also the data pertaining to the shipment of 558 boxes of oranges, which, as, you will remember, was forwarded from San Diego to Cleveland, Ohio, and arrived in perfect condition.

Trusting this will answer your purpose, and awaiting your commands, I remain,

Yours truly,

CHAS. S. HARDY.

## HARDY'S PATENT FOLDING ICE-TANKS.



Temperature Record under Refrigeration :  $38^{\circ}$  floor,  $40^{\circ}$  roof.  
 Capacity Record under Ventilation : 558 boxes Oranges ; weight, 44,640 pounds.

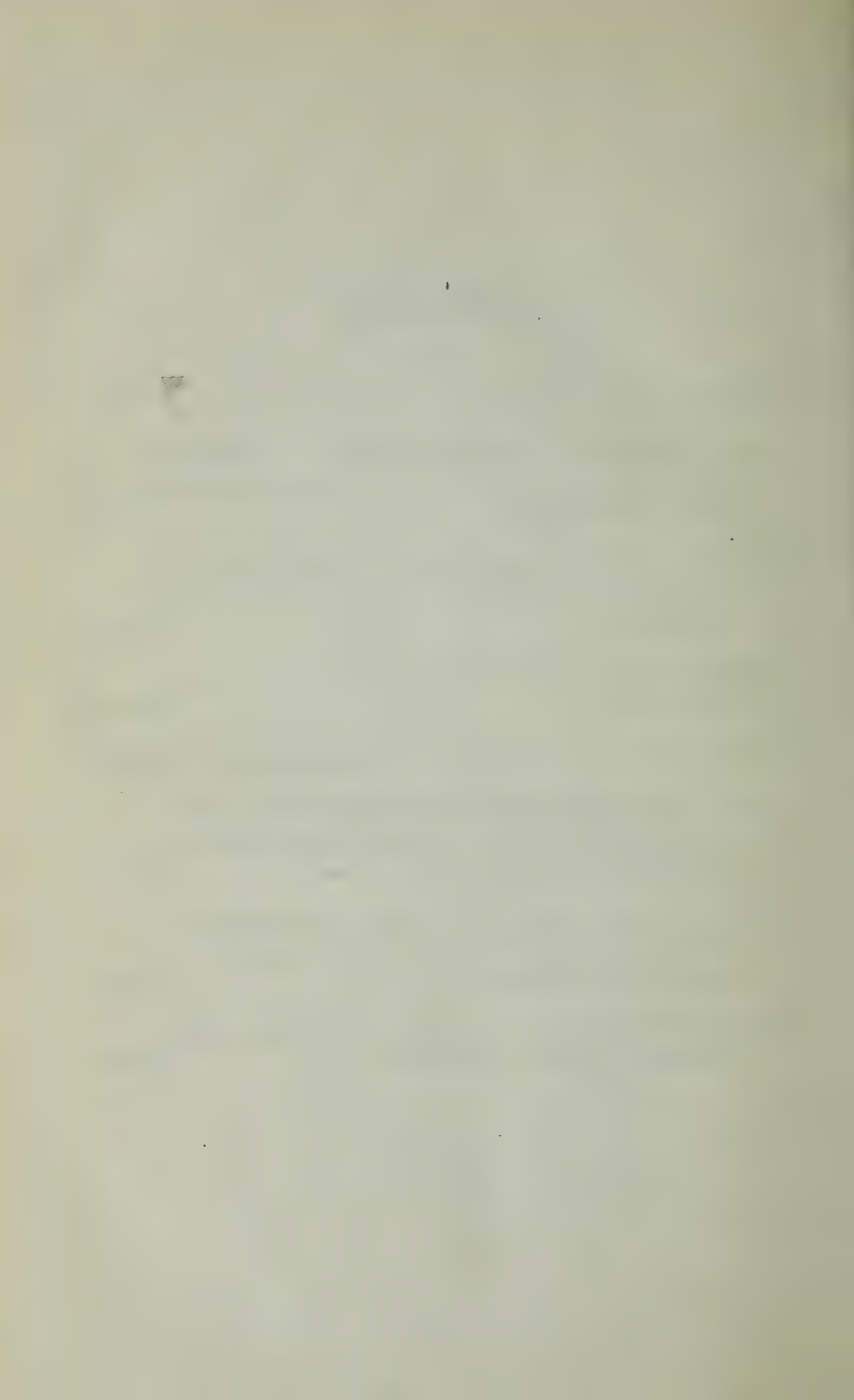




## APPENDIX.

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	Page.
Appended to this report will be found—	
1. Laws of the State of California, as found in the Constitution and Acts of the Legislature of the State, conferring powers upon this Commission .....	83-88
2. Reports of railroad companies (doing business in the State of California) of their transactions for the fiscal year ending June 30, 1896 .....	89-336
3. Report of Southern Pacific Company for the fiscal year ending June 30, 1895 .....	337-353
4. Statistical tables compiled from the foregoing reports .....	354-363
5. List of railroad companies that have filed articles of incorporation in the office of the Secretary of State, from October 19, 1894, to September 26, 1896 .....	364-369
6. Communications, complaints, and other correspondence concerning railroads and other transportation companies, and action of the Board thereon .....	370-376
7. Decision of Judge McKenna in the case of the Southern Pacific Company vs. Railroad Commissioners .....	377-415



# POWERS AND DUTIES OF RAILROAD COMMISSIONERS.

[From the Constitution of the State of California.]

## ARTICLE XII.

### CORPORATIONS.

SECTION 17. All railroad, canal, and other transportation companies are declared to be common carriers and subject to legislative control. Any association or corporation, organized for the purpose under the laws of this State, shall have the right to connect at the State line with railroads of other States. Every railroad company shall have the right with its road to intersect, connect with, or cross any other railroad, and shall receive and transport each the other's passengers, tonnage, and cars without delay or discrimination.

SEC. 18. No President, Director, officer, agent, or employé of any railroad or canal company shall be interested, directly or indirectly, in the furnishing of material or supplies to such company, nor in the business of transportation as a common carrier of freight or passengers over the works owned, leased, controlled, or worked by such company, except such interest in the business of transportation as lawfully flows from the ownership of stock therein.

SEC. 19. No railroad or other transportation company shall grant free passes, or passes or tickets at a discount, to any person holding any office of honor, trust, or profit in this State; and the acceptance of any such pass or ticket by a member of the Legislature, or any public officer, other than Railroad Commissioner, shall work a forfeiture of his office.

SEC. 20. No railroad company, or other common carrier, shall combine, or make any contract with the owners of any vessel that leaves port, or makes port in this State, or with any common carrier, by which combination or contract the earnings of one doing the carrying are to be shared by the other not doing the carrying. And whenever a railroad corporation shall, for the purpose of competing with any other common carrier, lower its rates for transportation of passengers or freight from one point to another, such reduced rates shall not be again raised or increased from such standard without the consent of the governmental authority in which shall be vested the power to regulate fares and freights.

SEC. 21. No discrimination in charges, or facilities for transportation, shall be made by any railroad or other transportation company between places or persons, or in the facilities for the transportation of the same classes of freight or passengers within this State, or coming from or going to any other State. Persons and property transported over any railroad, or by any other transportation company or individual, shall be delivered at any station, landing, or port, at charges not exceeding the charges for the transportation of persons and property of the same class, in the same direction, to any more distant station, port, or landing. Excursion and commutation tickets may be issued at special rates.



SEC. 22. The State shall be divided into three districts as nearly equal in population as practicable, in each of which one Railroad Commissioner shall be elected by the qualified electors thereof, at the regular gubernatorial elections, whose salary shall be fixed by law, and whose term of office shall be four years, commencing on the first Monday after the first day of January next succeeding their election. Said Commissioners shall be qualified electors of this State and of the district from which they are elected, and shall not be interested in any railroad corporation, or other transportation company, as stockholder, creditor, agent, attorney, or employé; and the act of a majority of said Commissioners shall be deemed the act of said Commission. Said Commissioners shall have the power, and it shall be their duty, to establish rates of charges for the transportation of passengers and freight by railroad or other transportation companies, and publish the same from time to time, with such changes as they may make; to examine the books, records, and papers of all railroad and other transportation companies; and for this purpose they shall have power to issue subpoenas and all other necessary process; to hear and determine complaints against railroad and other transportation companies, to send for persons and papers, to administer oaths, take testimony, and punish for contempt of their orders and processes, in the same manner and to the same extent as courts of record, and enforce their decisions and correct abuses through the medium of the courts. Said Commissioners shall prescribe a uniform system of accounts to be kept by all such corporations and companies. Any railroad corporation or transportation company which shall fail or refuse to conform to such rates as shall be established by such Commissioners, or shall charge rates in excess thereof, or shall fail to keep their accounts in accordance with the system prescribed by the Commission, shall be fined not exceeding twenty thousand dollars for each offense; and every officer, agent, or employé of any such corporation or company, who shall demand or receive rates in excess thereof, or who shall in any manner violate the provisions of this section, shall be fined not exceeding five thousand dollars, or be imprisoned in the county jail not exceeding one year. In all controversies, civil or criminal, the rates of fares and freights established by said Commission shall be deemed conclusively just and reasonable, and in any action against such corporation or company, for damages sustained by charging excessive rates, the plaintiff, in addition to the actual damage, may, in the discretion of the Judge or jury, recover exemplary damages. Said Commission shall report to the Governor, annually, their proceedings, and such other facts as may be deemed important. Nothing in this section shall prevent individuals from maintaining actions against any of such companies. The Legislature may, in addition to any penalties herein prescribed, enforce this article by forfeiture of charter or otherwise, and may confer such further powers on the Commissioners as shall be necessary to enable them to perform the duties enjoined on them in this and the foregoing section. The Legislature shall have power, by a two-thirds vote of all the members elected to each house, to remove any one or more of said Commissioners from office, for dereliction of duty, or corruption, or incompetency; and whenever, from any cause, a vacancy in office shall occur in said Commission, the Governor shall fill the same by the appointment of a qualified person thereto, who shall hold office for the residue of the unexpired term, and until his successor shall have been elected and qualified.

[From Statutes of California, 1880.]

## CHAPTER LVII.

### AN ACT TO COMPEL RAILROAD CORPORATIONS, OR INDIVIDUALS OWNING RAILROADS, TO OPERATE THEIR ROADS.

[Approved April 15, 1880.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. From and after the completion of any railroad, or the completion of such portion thereof capable of being operated, it shall be the duty of the corporation or individual owning the same, to operate it; and upon the failure of said corporation or individual so owning said road to keep the same, or any part thereof, in full operation for the period of six months, its or his right to operate the same in whole or in part, as the case may be, shall be forfeited, and the lands occupied for the purposes of its or his road, so far as the same shall not be operated, shall revert to the original owners, or their successors in interest. A railroad shall be deemed to be in full operation when one passenger train, or one mixed train, is run over it once each day in each direction, and a sufficient number of freight trains to accommodate the traffic on said road.

SEC. 2. This Act shall not be construed to apply to a case where the operation of a road is prevented by the act of God, nor to a case where the operation of said road, together with its branch or trunk lines, does not yield income sufficient to defray the expenses of maintaining and operating the same in connection with its said branch or trunk lines.

SEC. 3. The Railroad Commissioners of the State of California shall have the power to examine and determine the question whether said road, together with its said branch and trunk lines, does or does not yield income sufficient to operate the same.

SEC. 4. This Act shall take effect immediately.

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[From Statutes of California, 1880.]

## CHAPTER LIX.

### AN ACT TO ORGANIZE AND DEFINE THE POWERS OF THE BOARD OF RAILROAD COMMISSIONERS.

[Approved April 15, 1880.]

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

SECTION 1. The three persons elected Railroad Commissioners pursuant to the provisions of section twenty-two of article twelve of the Constitution of this State, constitute, and shall be known and designated

as the "Board of Railroad Commissioners of the State of California." They shall have power to elect one of their number President of said Board, to appoint a Secretary, to appoint a Bailiff, who shall perform the duties of Janitor; also to employ a stenographer, whenever they may deem it expedient.

SEC. 2. The salary of each Commissioner shall be four thousand dollars per annum; the salary of the Secretary shall be twenty-four hundred dollars per annum; the salary of the Bailiff shall be twelve hundred dollars per annum, such salaries to be paid by the State of California in the same manner as the salaries of State officers are paid. The stenographer shall receive a reasonable compensation for his services, the amount to be fixed by the State Board of Examiners, and paid by the State. Said Commissioners, and the persons in their official employment, when traveling in the performance of their official duties, shall have their traveling expenses other than transportation paid, the amount to be passed on by the State Board of Examiners, and paid by the State. Said Board of Railroad Commissioners shall be allowed one hundred dollars per month for office rent, and fifty dollars per month for fuel, lights, postage, expressage, subscriptions to publications upon the subject of transportation, and other incidental expenses, to be paid by the State; *provided*, that all moneys remaining unexpended at the expiration of each fiscal year shall be returned to the State Treasury. Said Board is further authorized to expend not to exceed four hundred dollars for office furniture and fixtures, to be paid by the State. The State shall furnish said Board with all necessary stationery and printing, upon requisitions signed by the President of said Board.

SEC. 3. Said Commissioners, and the persons in their official employment, shall, when in the performance of their official duties, have the right to pass free of charge on all railroads, steamers, ships, vessels, and boats, and on all vehicles employed in or by any railroad or other transportation company engaged in the transportation of freight and passengers within the State.

SEC. 4. It shall be the duty of the Attorney-General and the District Attorney in every county, on request of said Board, to institute and prosecute, and to appear and to defend, for said Board, in any and all suits and proceedings which they or either of them shall be requested by said Board to institute and prosecute, and to appear in all suits and proceedings to which the Board is a party shall have precedence over all other business, except criminal business; *provided*, that said Board shall have the power to employ additional counsel to assist said Attorney-General, or said District Attorney, or otherwise, when in their judgment the exigencies of the case may so require, the fees and expenses of said additional counsel to be determined by the State Board of Examiners, and paid by the State.

SEC. 5. The office of said Board shall be in the City of San Francisco. Said office shall always be open (legal holidays and non-judicial days excepted). The Board shall hold its sessions at least once a month in said City of San Francisco, and at such other times and such other places within this State as may be expedient. The sessions of said Board shall be public, and when held at a place other than the office in the City of San Francisco, notice thereof shall be published once a week for two successive weeks before the commencement of such session, in a newspaper published in the county where such session is to be held; and if no news-



paper is published in such county, then in a newspaper published in an adjacent county, such publication to be paid by the State in the manner as other publications authorized by law are paid.

SEC. 6. The Board shall have a seal, to be devised by its members, or a majority thereof. Such seal shall have the following inscription surrounding it: "Railroad Commission, State of California." The seal shall be affixed only to, first, writs; second, authentications of a copy of a record or other proceedings, or copy of a document on file in the office of said Commission.

SEC. 7. The process issued by said Board shall extend to all parts of the State. The Board shall have power to issue writs of summons and of subpoena in like manner as courts of record. The summons shall direct the defendant to appear and answer within fifteen days from the day of service. The necessary process issued by the Board may be served in any county in this State by the Bailiff of the Board, or by any person authorized to serve process of courts of record.

SEC. 8. The Secretary of said Board shall issue all process and notices required to be issued, and do and perform such other duties as the Board may prescribe. The Bailiff shall preserve order during the sessions of said Board, and shall have authority to make arrests for disturbances. He shall also have authority, and it shall be his duty, to serve all process, orders, and notices issued by said Board when directed by the President, and make return of the same.

SEC. 9. All complaints before said Board shall be in writing and under oath. All decisions of said Board shall be given in writing, and the grounds of the decisions shall be stated. A record of the proceedings of said Board shall be kept, and the evidence of persons appearing before said Board shall be preserved.

SEC. 10. Whenever the Board shall render any decision within the purview and pursuant to the authority vested in said Board by section twenty-two of article twelve of the Constitution, said Board, or the person, co-partnership, company, or corporation making the complaint upon which such decision was rendered, is authorized to sue upon such decision in any court of competent jurisdiction in this State.

SEC. 11. Whenever said Board, in the discharge of its duties, shall establish or adopt rates of charges for the transportation of passengers and freight, pursuant to the provisions of the Constitution, said Board shall serve a printed schedule of such rates, and of any changes that may be made in such rates, upon the person, co-partnership, company, or corporation affected thereby; and upon such service, it shall be the duty of such person, co-partnership, company, or corporation to immediately cause copies of the same to be posted in all its offices, station-houses, warehouses, and landing offices affected by such rates, or change of rates, in such manner as to be accessible to public inspection during usual business hours. Said Board shall also make such further publication thereof as they shall deem proper and necessary for the public good. If the party to be served, as hereinbefore provided, be a corporation, such service may be made upon the President, Vice-President, Secretary, or Managing Agent thereof, and if a co-partnership, upon any partner thereof. The rates of charges established or adopted by said Board, pursuant to the Constitution and this Act, shall go into force and effect on the twentieth day after service of said schedule of rates, or

changes in rates, upon the person, co-partnership, company, or corporation affected thereby, as hereinbefore provided.

SEC. 12. When jurisdiction is, by the Constitution, conferred on the Board of Railroad Commissioners, all the means necessary to carry it into effect are also conferred on said Board; and when, in the exercise of jurisdiction within the purview of the authority conferred on said Board by the Constitution, the course of proceeding be not specifically pointed out, any suitable process or mode of proceeding may be adopted by the Board which may appear most conformable to the spirit of the Constitution.

SEC. 13. The said Board shall, immediately after entering upon the performance of its duties, demand and receive from the Transportation Commissioner, appointed under an Act approved April first, eighteen hundred and seventy-eight, section nine, chapter one, all public property belonging to the office of said Transportation Commissioner, in his possession, or under his control, and it is hereby made his duty to deliver the same to the said Board.

SEC. 14. The term "transportation companies" shall be deemed to mean and include:

First—All companies owning and operating railroads (other than street railroads) within this State.

Second—All companies owning and operating steamships engaged in the transportation of freight or passengers from and to ports within this State.

Third—All companies owning and operating steamboats used in transporting freight or passengers upon the rivers or inland waters of this State.

The word "company," as used in this Act, shall be deemed to mean and include corporations, associations, partnerships, trustees, agents, assignees, and individuals. Whenever any railroad company owns and operates, in connection with its road and for the purpose of transporting its cars, freight, or passengers, any steamer or other watercraft, such steamer or other watercraft shall be deemed a part of its said road. Whenever any steamship or steamboat company owns and operates any barge, canal-boat, steamer, tug, ferry-boat, or lighter in connection with its ships or boats, the things so owned and operated shall be deemed to be part of its main line.

SEC. 15. The salaries of the Commissioners, Secretary, Bailiff, and all other officers and attachés in any manner employed by the Board of Commissioners, and all expenses of any kind created under this Act, shall be paid out of any money in the General Fund not otherwise appropriated, and the Controller of State is hereby authorized and directed to draw his warrants from time to time for such purposes, and the State Treasurer is hereby authorized and directed to pay the same.

SEC. 16. This Act shall take effect immediately.

## REPORTS OF RAILROAD COMPANIES.

FOR THE YEAR ENDING JUNE 30, 1896.

## SOUTHERN PACIFIC COMPANY.

## HISTORY.

1. Name of common carrier making this report: Southern Pacific Company.
2. Date of organization: March 17, 1884.
3. Under laws of what Government, State, or Territory organized: Chartered by the Act of the State of Kentucky, Chap. 403, approved March 17, 1884; amended by Chap. 601, approved March 21, 1888.

## ORGANIZATION.

Names of Directors.	Post Office Address.
C. P. Huntington .....	23 Broad Street, New York.
Chas. F. Crocker .....	San Francisco.
Thos. H. Hubbard .....	23 Broad Street, New York.
John C. Stubbs .....	San Francisco.
N. T. Smith .....	San Francisco.
Thos. E. Stillman .....	23 Broad Street, New York.
H. E. Huntington .....	San Francisco.
Russell J. Wilson .....	San Francisco.
W. H. Crocker .....	San Francisco.
C. G. Lathrop .....	San Francisco.
A. L. Tubbs .....	San Francisco.

Date of expiration of terms of Directors: April 8, 1897.

Total number of stockholders at date of last election: 162.

Date of last meeting of stockholders for election of Directors: April 8, 1896.

Post Office address of general and operating offices: No. 4 Montgomery Street, San Francisco, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: E. C. Wright, Secretary, 4 Montgomery Street, San Francisco, Cal.

## OFFICERS.

Title.	Name.	Location of Office.
<i>General.</i>		
President .....	C. P. Huntington .....	New York.
First Vice-President .....	Charles F. Crocker .....	San Francisco.
Second Vice-President .....	Thomas H. Hubbard .....	New York.
Third Vice-President .....	J. C. Stubbs .....	San Francisco.
First Assistant to President .....	H. E. Huntington .....	San Francisco.
Acting Vice-President and Assistant Secretary .....	I. E. Gates .....	New York.
Second Assistant to President and Controller .....	William Mahl .....	New York.
General Manager .....	J. Kruttschnitt .....	San Francisco.
Secretary and Assistant Controller .....	E. C. Wright .....	San Francisco.
Assistant Secretary .....	C. F. Krebs .....	Louisville.
Treasurer .....	N. T. Smith .....	San Francisco.
Assistant Treasurer .....	F. H. Davis .....	New York.
Assistant to Treasurer .....	C. H. Redington .....	San Francisco.
Chief Engineer .....	William Hood .....	San Francisco.



## OFFICERS—Continued.

Title.	Name.	Location of Office.
<i>General—Continued.</i>		
Manager Purchases and Supplies.....	R. P. Schwerin.....	San Francisco.
General Counsel.....	Charles H. Tweed.....	New York.
Chief Counsel.....	William F. Herrin.....	San Francisco.
Transfer Agent.....	George Watkins.....	New York.
Registrar of Stock.....	Union Trust Company.....	New York.
<i>Pacific System.</i>		
General Traffic Manager.....	Richard Gray.....	San Francisco.
Assistant General Traffic Manager.....	E. Hawley.....	New York.
General Freight Agent.....	C. F. Smurr.....	San Francisco.
General Passenger Agent.....	T. H. Goodman.....	San Francisco.
General Baggage Agent.....	J. T. Carothers.....	San Francisco.
Manager.....	J. A. Fillmore.....	San Francisco.
Manager Lines in Oregon.....	R. Koehler.....	Portland, Or.
Engineer of Maintenance of Way.....	W. G. Curtis.....	San Francisco.
Superintendent of Motive Power.....	H. J. Small.....	Sacramento.
<i>Atlantic Properties.</i>		
Auditor.....	E. M. Underhill.....	New Orleans.
Local Treasurer.....	J. B. Richardson.....	New Orleans.
General Traffic Manager.....	J. G. Schriever.....	New Orleans.
General Freight Agent.....	H. J. Lyons.....	New Orleans.
General Passenger Agent.....	S. F. B. Morse.....	New Orleans.
Manager.....	W. G. Van Vleck.....	New Orleans.
Engineer of Maintenance of Way.....	J. T. Mahl.....	New Orleans.
Superintendent of Motive Power.....	J. J. Ryan.....	Houston.

## PROPERTY OPERATED.

Name of Road.	Miles.	Total Miles.
<i>Railroad line represented by capital stock—</i>		
None except through ownership of stock.		
<i>Proprietary companies whose entire capital stock is owned by this company—</i>		
<i>Southern Pacific Railroad of California:</i>		
San Francisco to Tres Pinos.....	100.490	
Alcalde to Mojave.....	202.178	
Mojave to Yuma.....	349.171	
Carnadero to Salinas City.....	35.100	
Salinas City to San Miguel.....	90.893	
Los Angeles to San Pedro.....	24.650	
San Miguel to Santa Margarita.....	27.802	
Ellwood to Saugus.....	91.500	
Stockton to Milton.....	25.820	
Baden to South San Francisco.....	1.513	
San Bruno to South San Francisco.....	2.159	
Hillsdale to New Almaden.....	7.711	
Pajaro to Santa Cruz.....	21.200	
Aptos to Monte Vista.....	7.083	
Castroville to Lake Majella.....	19.554	
Santa Margarita to San Luis Obispo.....	16.900	
San Luis Obispo to Lake.....	24.299	
Avon to San Ramon.....	20.269	
Near Martinez to Armona.....	193.226	
Collis to Fresno.....	15.154	
Peters to Oakdale.....	18.930	
Oakdale to Merced.....	40.332	
Berenda to Raymond.....	21.000	
Fresno to Pollasky.....	24.112	
Fresno to Famoso.....	102.275	
Bakersfield to Stevens.....	15.116	
Stevens to Rio Bravo.....	7.761	
Amount carried forward.....	1,509,898	

## PROPERTY OPERATED—Continued.

Name of Road.	Miles.	Total Miles.
Amount brought forward.....	1,509,898	
Rio Bravo to Lokern .....	14.912	
Lokern to Asphalto .....	10.268	
Burbank to Chatsworth Park .....	21.621	
Clement Junction to Santa Monica .....	15.515	
Santa Monica to Port Los Angeles .....	2.351	
Soldiers' Home to Branch .....	2.971	
San Pedro to Point Fermin .....	2.915	
Florence to Santa Ana .....	27.820	
Miraflores to Tustin .....	11.703	
Studebaker to Whittier .....	5.914	
Long Beach to Thenard .....	4.023	
Shorb to Pasadena .....	4.834	
Shorb to Monrovia .....	10.750	
Ontario to Chino .....	5.780	
Declez to Declezville .....	2.552	
Redlands Junction to Crafton .....	7.190	
Bassett to Covina .....	9.557	
Leased from San Bernardino & Redlands R. R. Co. (motor line):		
San Bernardino to Motor Junction .....	7.237	1,678.111
Southern Pacific Railroad of Arizona:		
East bank of Colorado River to New Mexico line .....	392.930	392.930
Southern Pacific Railroad of New Mexico:		
Arizona line to east bank of Rio Grande .....	167.450	167.450
South Pacific Coast Railway (narrow gauge):		
Alameda to Santa Cruz .....	77.600	
Alameda Junction to Fourteenth Street, Oakland .....	1.800	
Newark to Centerville .....	3.000	
Campbells to New Almaden .....	9.600	
Felton to Boulder Creek .....	7.300	
Junction South of Big Trees to Old Felton .....	1.700	
Ferry, San Francisco, to Alameda .....	3.000	104.000
Northern Railway of California:		
West Oakland to Delaware Street .....	4.150	
West Oakland to near Martinez .....	31.040	
Benicia to Suisun .....	16.350	
Woodland to Tehama .....	100.840	
West Oakland to Berryman .....	5.390	
Willows to Fruto .....	16.840	
Elmira to Rumsey .....	51.390	
Napa Junction to Santa Rosa .....	36.950	
Sacramento to Placerville .....	59.730	
Galt to Ione .....	27.210	
Bracks (narrow gauge) to Valley Springs .....	39.850	
Port Costa (ferry) to Benicia .....	1.000	390.740
Northern California Railway:		
Oroville to Marysville .....	25.970	
Marysville to Knight's Landing .....	27.750	53.720
<i>Lines operated under lease for specified sum—</i>		2,786.801
California Pacific Railroad:		
Vallejo to Sacramento .....	60.390	
Davis to Knight's Landing .....	18.640	
Napa Junction to Calistoga .....	34.480	
Vallejo Junction (ferry) to Vallejo .....	2.000	115.510
Union Pacific Railway, account Central Pacific Railroad:		
Five miles west of Ogden to Ogden .....	5.000	5.000
		120.510
Amount carried forward.....		2,907,311

## PROPERTY OPERATED—Continued.

Name of Road.	Miles.	Total Miles.
Amount brought forward .....		2,907,311
<i>Lines operated under contract, or where the rent is contingent upon earnings or other considerations—</i>		
Central Pacific Railroad:		
San José to near Ogden .....	863.120	
Roseville to Oregon State line .....	296.580	
Lathrop to Goshen .....	146.080	
Oakland local lines .....	4.840	
Alameda local lines .....	11.460	
Oakland to Niles .....	26.390	
Ogden Union Station to Utah Central crossing .....	.110	
San Francisco to Oakland (ferry) .....	3.690	
		1,352.270
Oregon and California Railroad:		
California State line to Portland .....	366.610	
Portland to Corvallis .....	96.520	
Woodburn to Natron .....	92.960	
Albany Junction to Lebanon .....	11.500	
Portland to Airlie .....	97.270	
Sheridan Junction to Sheridan .....	7.180	
		654.040
		2,006.310
<i>Lines operated under trackage rights—</i>		
Northern Railway of California, account C. P. R. R.: Brighton to Sacramento .....	5.640	
		5.640
Northern Pacific Terminal Co., account O. & C. R. R.: Trackage through terminal grounds at Portland .....	1.720	
		1.720
		7.360
Total Pacific System .....		4,920.981

## CAPITAL STOCK.

The total par value of authorized capital stock is \$150,000,000 divided into 1,500,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$120,995,070. No dividends declared. The manner of payment for capital stock was as follows:

	Number Shares Issued During Year.	Number Shares Outstanding.	Cash Realized.
Issued for cash, common .....		10,000.00	\$1,000,000 00
Issued for stock of railroad companies .....	609	1,199,950.70	119,995,070 00
Totals .....	609	1,209,950.70	\$120,995,070 00

The stock of this company is issued at par, and it receives therefor stock of railroad companies at rates agreed upon by the Board of Directors.

## FUNDED DEBT.

Class of Bond or Obligation, Date of Issue, and when Due.	Authorized Issue.	Amount Issued.	Amount Outstanding.	Cash Realized on Amount Issued.
S. P. Company Steamship bond, first mortgage, Jan. 1, 1891; Jan. 1, 1911 .....	\$3,000,000 00	\$3,000,000 00	\$2,644,000 00	\$3,000,000 00

These bonds bear 6 per cent interest, payable in June and July. The amount accrued during year was \$162,900; amount paid, \$162,900.



## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.	Interest Accrued During Year.	Interest Paid During Year.
Mortgage bonds .....	\$3,000,000 00	\$2,644,000 00	\$162,900 00	\$162,900 00

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash .....	\$1,829,841 34	Loans and bills payable .....	\$2,234,552 34
Bills receivable .....	152,240 43	Audited vouchers and accounts .....	2,136,027 64
Due from agents .....	554,924 31	Wages and salaries .....	1,912,239 48
Miscellaneous, U. S. Govt. ....	2,226,385 39	Net traffic balances due to other companies .....	111,732 66
Miscellaneous, other .....	391,081 52	Dividends not called for .....	61,366 95
Total cash and current assets ..	\$5,154,472 99	Matured interest coupons unpaid (including coupons due July 1st) .....	1,481,028 60
Balance—current liabilities .....	2,782,474 68	Total .....	\$7,936,947 67
Total .....	\$7,936,947 67		

Materials and supplies on hand, \$1,584,017 96.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Other Properties.
Capital stock .....	\$120,995,070	-----
Bonds .....	2,644,000	\$2,644,000
Equipment trust obligations .....	None.	-----
Totals .....	\$123,639,070	\$2,644,000

This company owns no road except through ownership of stock of railroad companies, which is, in effect, a duplication.

## B. For Mileage Operated by Road Making this Report (Trackage Rights excluded), the Operations of which are included in the Income Account.

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.
Southern Pac. R. R. of California .....	\$70,006,100	\$52,326,500	\$773,331 50	\$123,105,931 50
Southern Pac. R. R. of Arizona .....	19,995,000	10,000,000	1,015 00	29,996,015 00
Southern Pac. R. R. of N. Mexico .....	6,888,800	4,180,000	129,255 85	11,198,055 85
South Pac. C. Ry. (narrow gauge) .....	6,000,000	5,500,000	-----	11,500,000 00
Northern Railway .....	12,896,000	9,907,000	47,663 41	22,850,663 41
Northern California Railway .....	1,280,000	1,074,000	-----	2,354,000 00
Oregon & California Railroad .....	19,000,000	19,625,000	1,736,212 55	40,361,212 55
California Pacific Railroad .....	12,000,000	6,825,500	170,055 00	18,995,555 00
Central Pacific Railroad .....	67,275,500	59,883,000	1,984,930 80	129,143,430 80

## RECAPITULATION—Continued.

Name of Road.	Miles.	Amount per Mile of Line.
Southern Pacific Railroad of California .....	1,913.430	\$64,337 83
Southern Pacific Railroad of Arizona .....	392.930	76,339 33
Southern Pacific Railroad of New Mexico .....	167.300	66,874 03
South Pacific Coast Railway (narrow gauge) .....	101.000	113,861 39
Northern Railway .....	389.740	58,630 52
Northern California Railway .....	53.720	43,819 81
Oregon & California Railroad .....	654.040	61,710 62
California Pacific Railroad .....	113.510	167,346 98
Central Pacific Railroad .....	1,348.580	95,762 53

Morgan's Louisiana & Texas Railroad and Steamship Company, Iberia & Vermilion Railroad, and Louisiana Western Railroad—amounts not at hand.

## INCOME ACCOUNT.

	Atlantic Properties.	Pacific System.	Total.
Gross earnings from operation .....	\$4,020,807 07	\$32,226,624 46	\$36,247,431 53
Less operating expenses .....	2,539,785 71	20,956,812 64	23,496,598 35
Income from operation .....	\$1,481,021 36	\$11,269,811 82	\$12,750,833 18
Dividends on stocks owned .....		\$105,000 00	\$105,000 00
Interest on bonds owned .....	\$132,775 00	83,242 95	216,017 95
Miscellaneous income—less expenses .....	140,106 37	575,307 44	715,413 81
Income from other sources .....	\$272,881 37	\$763,550 39	\$1,036,431 76
Total income .....	\$1,753,902 73	\$12,033,362 21	\$13,787,264 94
Deductions from income:			
Interest on funded debt accrued .....	\$162,900 00		\$162,900 00
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	5,562 73	\$184,110 94	189,673 67
Rents paid for lease of road .....	1,271,726 83	10,745,577 66	12,017,304 49
Taxes .....	114,668 10	1,152,216 48	1,266,884 58
Permanent improvements .....		35,492 27	35,492 27
Total deductions from income .....	\$1,554,857 66	\$12,117,397 35	\$13,672,255 01
Net income .....	\$199,045 07		\$115,009 93
Deficit .....		\$84,035 14	
Surplus from operations of year ending June 30, 1896 .....			\$115,009 93
Surplus on June 30, 1895 .....			6,938,792 23
			\$7,053,802 16
Deductions for year* .....			127,129 32
Surplus on June 30, 1896 .....			\$6,926,672 84

\* Deductions for year—readjustment of valuations:

Permanent investments .....	\$64,400 00
Securities owned, etc. ....	62,729 32
	\$127,129 32

Permanent improvements charged to income account of the Southern Pacific Company, account of the following companies: South Pacific Coast Railway, Northern California Railway, California Pacific Railroad.

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Items.	Permanent Improvements During Year.
Construction:	
Right of way .....	\$233 92
Other real estate .....	1,600 80
Fences .....	2,297 38
Grading, and bridge and culvert masonry .....	135 42
Bridges and trestles .....	709 73
Water station supply .....	682 47
Other superstructure .....	167 19
Buildings, furniture, and fixtures .....	8,302 44
Sidings .....	21,247 58
Total construction .....	\$35,376 93
Equipment:	
Cars of all classes .....	115 34
Total cost construction, equipment, etc. ....	\$35,492 27

This company owns no road. Construction and equipment reported by lessor companies.

EARNINGS FROM OPERATION—*Pacific System.*

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Passenger revenue .....	\$9,788,406 81		
Less tickets redeemed .....		\$45,227 15	
Less excess fares refunded .....		16,377 78	
Total deductions .....		\$61,604 93	
Total passenger revenue .....			\$9,726,801 88
Mail .....			1,147,920 77
Express .....			573,049 15
Extra baggage and storage .....			128,185 47
Other items .....			417,335 09
Total passenger earnings .....			\$11,991,292 36
Freight revenue .....	\$20,106,118 93		
Less overcharge to shippers .....		\$387,664 10	
Other repayments .....		43,762 32	
Total deductions .....		\$431,426 42	
Total freight earnings .....			19,674,692 51
Total passenger and freight earnings .....			\$31,665,984 87
Other earnings from operation:			
Car mileage—balance .....			\$100,902 12
Locomotive charges—balance .....			103,180 00
Telegraph companies .....			94,091 66
Rents from tracks, yards, and terminals .....			136,224 23
Rents not otherwise provided for .....			132,241 58
Total other earnings .....			\$560,639 59
Total gross earnings from operation .....			\$32,226,624 46



## STOCKS OWNED.

*A. Railway Stocks.*

Name.	Par Value.	Income or Dividend Received.	Valuation.
Southern Pacific R. R. Co. of California .....	\$68,164,650 00	-----	\$40,785,409 89
Southern Pacific R. R. Co. of Arizona .....	19,995,000 00	-----	11,997,000 00
Southern Pacific R. R. Co. of New Mexico .....	6,888,800 00	-----	4,133,280 00
South Pacific Coast Ry. Co. ....	6,000,000 00	-----	550,000 00
Northern Ry. Co. ....	12,704,700 00	-----	12,704,700 00
Northern California Ry. Co. ....	1,280,000 00	-----	10 00
Morgan's Louisiana & Texas R. R. & S. S. Co. ....	14,995,000 00	-----	22,444,250 00
Louisiana Western R. R. Co. ....	3,360,000 00	-----	3,360,000 00
Texas & New Orleans R. R. Co. ....	5,000,000 00	-----	7,500,000 00
Galveston, Harrisburg & San Antonio Ry. Co. ....	27,016,000 00	-----	16,211,175 00
New York, Texas & Mexico Ry. Co. ....	615,000 00	-----	500 00
Oregon & California R. R. Co. ....	4,000,000 00	-----	400,000 00
California Pacific R. R. Co. ....	1,794,633 33	-----	279,830 16
Mexican International R. R. Co. ....	4,172,100 00	-----	834,420 00
Austin & Northwestern R. R. Co. ....	716,000 00	-----	179,000 00
Central Texas & Northwestern Ry. Co. ....	200,000 00	-----	47,000 00
Fort Worth & New Orleans Ry. Co. ....	300,000 00	-----	3,000 00
Totals .....	\$177,201,883 33	-----	\$121,429,575 05

*B. Other Stocks.*

Union Compress and Warehouse Co. ....	\$16,000 00	-----	\$10,000 00
Louisiana Sugar Exchange .....	250 00	-----	175 00
Chamber of Commerce and Industry of Louisiana .....	100 00	-----	100 00
New Orleans Board of Trade .....	100 00	-----	90 00
Railway Age and N. W. Railroader .....	500 00	-----	500 00
Wells, Fargo & Co. ....	1,750,000 00	\$105,000 00	1,925,000 00
Totals .....	\$1,766,950 00	\$105,000 00	\$1,935,865 00
Grand totals—A and B .....	\$178,968,833 33	\$105,000 00	\$123,365,440 05

## BONDS OWNED.

*A. Railway Bonds.*

Name.	Total Par Value.	Rate.	Interest Received.	Valuation.
S. P. R. R. Co. of California, 5% consolidated of 1893 .....	\$537,000 00	5%	\$43,767 89	\$483,300 00
Oregon & Cal. R. R. Co., first mortgage .....	97,000 00	5%	14,725 00	72,750 00
Galveston, Harrisburg & San Antonio Ry. Co., income .....	1,110,000 00	6%	-----	277,500 00
Gulf, Western Texas & Pacific Ry. Co. ....	2,224,000 00	5%	111,200 00	1,334,178 38
Fort Worth & New Orleans Ry. Co. ....	648,000 00	6%	21,575 00	648,000 00
Gila Valley, Globe & Northern Ry. Co. ....	170,000 00	5%	8,500 00	113,333 34
Totals .....	\$4,786,000 00	-----	\$199,767 89	\$2,929,061 72

*B. Other Bonds.*

Northern Pacific Terminal Co. ....	-----	6%	\$16,250 06	-----
Grand totals—A and B .....	\$4,786,000 00	-----	\$216,017 95	\$2,929,061 72

RENTALS RECEIVED—*Pacific System.*

Designation of Property.	Situation of Property Leased.	Company Using Property Leased.	Item.
Tracks: Third rail privilege .....	Ogden, Utah .....	Rio Grande West'n Ry.	\$175 08
Trackage right .....	Sacramento to Brighton	Central Pacific R. R.	7,200 00
Trackage right .....	Marysville, Cal. ....	Northern Cal. Ry. ....	1,800 00
Yards: Ferry and river steamers .....	San Francisco Bay .....	Pacific System lines ..	21,290 82
Shops .....	Sacramento, Cal. ....	Pacific System lines ..	57,000 00
Ship ways .....	Oakland, Cal. ....	Pacific System lines ..	6,144 76
Terminals: Ground .....	San Francisco, Cal. ....	Various tenants .....	481 00
Total .....			\$94,091 66

MISCELLANEOUS INCOME—*Pacific System.*

Item.	Gross Income.	Less Expenses.	Net Miscellaneous Income.
Line of S. P. R. R. Co. of Cal., Mojave to The Needles, leased to the A. & P. R. R. ....	\$436,266 00		\$436,266 00
Rental of property .....	146,218 42	\$29,233 53	116,984 89
Creosote works, Oakland, operation of .....	22,056 55		22,056 55
Totals .....	\$604,540 97	\$29,233 53	\$575,307 44

RENTALS RECEIVED—*Atlantic Properties.*

Designation of Property.	Situation of Property Leased.	Company Using Property Leased.	Item.
Trackage right .....	New Iberia, Louisiana ..	Iberia & Vermilion ...	\$1,113 00
Trackage right .....	El Paso .....	Texas & Pacific Ry. ....	44,250 00
Total .....			\$45,363 00

MISCELLANEOUS INCOME—*Atlantic Properties.*

Item.	Gross Income.	Less Expenses.	Net Miscellaneous Income.
Morgan's steamship line .....	\$2,386,701 22	\$2,571,509 85	Dr. \$184,808 63
Rental of property .....	2,400 00		2,400 00
Southern Pacific Co. steamships .....	590,865 00	268,350 00	322,515 00
Totals .....	\$2,979,966 22	\$2,839,859 85	\$140,106 37

OPERATING EXPENSES—*Pacific System.*

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$2,570,625 06
Renewals of rails .....	220,560 14
Renewals of ties .....	936,505 17
Repairs and renewals of bridges and culverts ..	548,672 09
Repairs and renewals of fences, road crossings, signs, and cattle guards.	93,655 71
Repairs and renewals of buildings and fixtures ..	360,946 18
Repairs and renewals of docks and wharves .....	70,921 12
Repairs and renewals of telegraph .....	3,881 55
Stationery and printing .....	1,225 99
Other expenses .....	183,500 20
Total .....	\$4,990,493 21

OPERATING EXPENSES—*Pacific System*—Continued.

Item.	Amount.
Maintenance of equipment:	
Superintendence.....	\$179,469 29
Repairs and renewals of locomotives.....	1,256,338 12
Repairs and renewals of passenger cars.....	581,262 62
Repairs and renewals of freight cars.....	1,040,436 58
Repairs and renewals of work cars.....	46,198 60
Repairs and renewals of marine equipment.....	133,673 47
Repairs and renewals of shop machinery and tools.....	34,164 97
Stationery and printing.....	748 43
Other expenses.....	86,221 76
Total.....	\$3,363,513 84
Conducting transportation:	
Superintendence.....	\$402,266 49
Engine and roundhouse men.....	1,606,570 82
Fuel for locomotives.....	3,519,876 99
Water supply for locomotives.....	130,581 82
Oil, tallow, and waste for locomotives.....	35,421 55
Other supplies for locomotives.....	29,315 45
Train service.....	1,182,334 32
Train supplies and expenses.....	247,440 31
Switchmen, flagmen, and watchmen.....	396,715 15
Telegraph expenses.....	422,508 08
Station service.....	1,589,030 81
Station supplies.....	87,959 41
Switching charges—balance.....	12,221 44
Car mileage—balance.....	68,272 61
Hire of equipment.....	78,533 19
Loss and damage.....	97,040 45
Injuries to persons.....	102,749 15
Clearing wrecks.....	25,967 24
Operating marine equipment.....	537,968 60
Advertising.....	145,865 75
Outside agencies.....	290,390 85
Commissions.....	9,899 23
Rents for tracks, yards, and terminals.....	287,748 79
Rents of buildings and other property.....	148,002 51
Stationery and printing.....	95,108 77
Other expenses.....	70,437 83
Total.....	\$11,620,227 61
General expenses:	
Salaries of general officers.....	\$134,238 50
Salaries of clerks and attendants.....	359,365 26
General office expenses and supplies.....	49,831 53
Law expenses.....	279,351 92
Stationery and printing (general offices).....	6,185 28
Other expenses.....	153,605 49
Total.....	\$982,577 98
Recapitulation of expenses:	
Maintenance of way and structures.....	\$4,990,493 21
Maintenance of equipment.....	3,363,513 84
Conducting transportation.....	11,620,227 61
General expenses.....	982,577 98
Grand total.....	\$20,956,812 64
Percentage of operating expenses to earnings.....	65.19



RENTALS PAID—*Pacific System.**A. Rents Paid for Lease of Road.*

Name of Road.	Interest on Bonds Guaranteed.	Cash.	Total.
Southern Pacific R. R. of California .....	\$2,948,908 41	\$916,808 67	\$3,865,717 08
Southern Pacific R. R. of Arizona .....	600,000 00	208,365 61	808,365 61
Southern Pacific R. R. of New Mexico .....	250,800 00	125,019 36	375,819 36
South Pacific Coast Ry. ....	220,000 00		220,000 00
Northern Ry. Co. ....	546,910 00	187,853 57	359,056 43
Northern California Ry. ....	53,700 00		53,700 00
Central Pacific R. R. ....	3,315,565 00	952,065 41 10,000 00	4,277,630 41
Oregon & California R. R. ....	942,100 00	790,811 23 5,000 00	156,288 77
California Pacific R. R. ....		600,000 00	600,000 00
Union Pacific Ry. ....		20,000 00	20,000 00
San Bernardino & Redlands R. R. Co. ....		9,000 00	9,000 00
Total rents .....	\$8,877,983 41	\$1,867,594 25	\$10,745,577 66

*B. Rents Paid for Lease of Tracks, Yards, and Terminals.*

Designation of Property.	Situation of Property Leased.	Company Owning Property Leased.	Item.
Steamers .....	Bay of San Francisco.	Various companies .....	\$21,290 82
Williams River Bridge .....	Portland, Or.	Union Pacific Ry. ....	10,000 00
Trackage right .....	Sacto. to Brighton, Cal.	Northern Ry. ....	7,200 00
Trackage right .....	Marysville, Cal.	Central Pacific R. R. ....	1,800 00
Trackage right .....	Rio Grande to El Paso.	G., H. & S. A. Ry. ....	5,661 36
Shops .....	San Francisco	Southern Pacific Co. ....	7,500 00
Shops .....	Sacramento	C. P. R. R. Co. ....	57,000 00
Shops .....	El Paso	G., H. & S. A. Ry. ....	6,252 21
Shipways .....	Oakland, Cal.	C. P. R. R. Co. ....	6,144 76
Ground .....	San Francisco, Cal.	C. A. Hooper & Co. ....	20,000 04
Ground .....	San Francisco, Cal.	Southern Pacific Co. ....	96,000 00
Ground .....	Ogden, Utah	U. P. Ry. & Depot Co. ....	9,000 00
Ground .....	Portland, Or.	N. P. Terminal Co. ....	39,899 60
Total rents .....			\$287,748 79

RENTALS PAID—*Atlantic Properties.**A. Rents Paid for Lease of Road.*

Name of Road.	Interest on Bonds Guaranteed.	Cash.	Total.
Morgan's Louisiana & Texas R. R. & S. S. Co. ....	\$502,088 60	\$479,240 90	\$981,329 50
Louisiana Western R. R. ....	134,400 00	145,855 92	280,255 92
Iberia & Vermilion R. R. ....	16,100 00	*5,958 59	10,141 41
Total rents .....	\$652,588 60	\$619,138 23	\$1,271,726 83

\* Credit.

*B. Rents Paid for Lease of Tracks, Yards, and Terminals.*

Designation of Property.	Situation of Property Leased.	Company Owning Property Leased.	Item.
Trackage right .....	Cheneyville to Alexandria .....	Texas & Pacific Ry. Co. M. L. & T. R. R. & S. S. Co.	\$10,620 00
Trackage right .....	New Iberia, Louisiana .....		1,113 00
Total rents .....	.....		\$11,733 00

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$123,260,900 16	Stocks owned .....	\$123,365,440 05	\$104,539 89	
2,621,378 38	Bonds owned .....	2,929,061 72	307,683 34	
6,574,195 34	Other permanent investm'ts .....	6,517,592 00		\$56,603 34
5,897,768 06	Cash and current assets .....	5,154,472 99		743,295 07
2,357,086 30	Materials and supplies .....	1,584,017 96		
594 00	Sinking fund .....	1,044 00		1,069,475 39
429,245 34	Sundries .....	132,388 29		
\$141,141,167 58	Totals .....	\$139,684,017 01		\$1,457,150 57
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$120,934,170 00	Capital stock .....	\$120,995,070 00	\$60,900 00	
2,715,000 00	Funded debt .....	2,644,000 00		\$71,000 00
9,450,153 35	Current liabilities .....	7,936,947 67		1,513,205 68
817,458 00	Accrued interest on funded debt not yet payable .....	824,282 50	6,824 50	
285,594 00	Income for sinking funds .....	357,044 00	71,450 00	
6,938,792 23	Profit and loss .....	6,926,672 84		12,119 39
\$114,141,167 58	Totals .....	\$139,684,017 01		\$1,457,150 57

## IMPORTANT CHANGES DURING THE YEAR.

\$60,900 of Southern Pacific Company capital stock issued in exchange for stock of other companies

\$71,000 of Southern Pacific Company Steamship bonds redeemed.

## CONTRACTS, AGREEMENTS, ETC.

1. *Express Companies.*—Contract with Wells, Fargo & Co., provides that the railroads shall transport express matter, and that payment therefor shall be made by Wells, Fargo & Co., at agreed rates.

2. *Mails.*—Rates are fixed by United States Government. On the Central and Southern Pacific, and Oregon and California Railroads these rates are subject to the terms of the several Acts of Congress granting aid for the construction of said railroads.

3. *Sleeping, Parlor, or Dining Car Companies.*—Sleeping cars are operated by the Pullman Palace Car Co., which company owns an interest in the cars. The net profit or loss from their operation is divided in proportion to the interest owned by each company.

4. *Freight or Transportation Companies or Lines.*—

5. *Other Railroad Companies.*—

6. *Steamboat or Steamship Companies.*—

7. *Telegraph Companies.*—Telegraph lines are operated jointly by Western Union Telegraph Co. and this company, under contracts entered into by the several lessor companies. The telegraph lines of the South Pacific Coast Ry. Co. are operated jointly with the Pacific Postal Telegraph Cable Co.

8. *Other Contracts.*—The Central Pacific R. R., the Southern Pacific R. R., and the Oregon & California R. R., each received aid in its construction from the United States, and is subject by the Acts granting such aid to certain restrictions and conditions regarding the transportation of freight, passengers, and mails. These Acts of Congress constitute contracts between the railroads and the United States.

## SECURITY FOR FUNDED DEBT.

Southern Pacific Company Steamship bonds, seven steamships mortgaged.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Days Worked.	Total Compensation.	Average Daily Compensation.
General officers .....	66	20,658	\$315,386 04	\$15 27
Other officers .....	10	3,130	46,600 08	14 89
General office clerks .....	541	16,933	599,758 32	3 54
Station agents* .....	543	169,959	444,793 68	2 62
Other station men † .....	1,232	385,616	960,350 64	2 49
Enginemen .....	676	211,588	948,769 94	4 48
Firemen .....	721	225,673	533,193 07	2 36
Conductors .....	378	118,314	483,194 64	4 08
Other trainmen .....	854	267,302	802,864 20	3 00
Machinists .....	382	119,566	407,013 36	3 40
Carpenters .....	748	234,124	733,207 92	3 13
Other shopmen .....	3,177	994,401	2,416,299 12	2 43
Section foremen .....	591	184,983	487,564 68	2 63
Other trackmen .....	4,129	1,292,377	1,819,159 08	1 41
Switchmen, flagmen, and watchmen ..	454	142,102	390,565 68	2 75
Telegraph operators and dispatchers ‡	240	75,120	246,177 96	3 28
Employés—account floating equipment .....	351	109,863	291,943 68	2 66
All other employés and laborers § .....	1,091	341,483	955,419 72	2 80
Total (including general officers) .....	16,184	5,065,592	\$12,882,261 81	\$2 54
Less general officers .....	66	20,658	315,386 04	15 27
Total (excluding general officers) .....	16,118	5,044,934	\$12,566,875 77	\$2 49
Distribution of above :				
General administration .....	617	193,121	\$961,744 44	\$4 98
Maintenance of way and structures ..	6,282	1,966,266	3,730,495 08	1 90
Maintenance of equipment .....	3,836	1,200,668	3,088,168 80	2 57
Conducting transportation .....	5,449	1,705,537	5,101,853 49	2 99
Total (including general officers) .....	16,184	5,065,592	\$12,882,261 81	\$2 54
Less general officers .....	66	20,658	315,386 04	15 27
Total (excluding general officers) .....	16,118	5,044,934	\$12,566,875 77	\$2 49

\* Includes agents who are also operators.

† Includes station men who are also operators.

‡ Excludes agents who are operators and station men who are also operators.

§ Maintenance of waymen not otherwise provided for. Commercial agents and clerks. Fruit-handlers on transportation. Department payrolls, lawyers, and stevedores.



PASSENGERS AND FREIGHT, AND TRAIN MILEAGE—*Pacific System.*

Item.	Tonnage, Passengers, etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	19,164,185	
Number of passengers carried one mile .....	503,898,082	
Number of passengers carried one mile per mile of road .....	102,380	
Average distance carried—miles .....	26.29	
Total passenger revenue .....		\$9,726,801 88
Average amount received from each passenger .....		50.755
Average receipts per passenger per mile .....		01.930
Total passenger earnings .....		11,991,292 36
Passenger earnings per mile of road .....		2,416 41
Passenger earnings per train mile .....		1 45.097
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	6,653,336	
Number of tons carried one mile .....	167,211,430	
Number of tons carried one mile per mile of road .....	33,967	
Average distance haul of one ton—miles .....	25.133	
Total freight revenue .....		19,674,692 51
Average amount received for each ton of freight .....		2 95.712
Average receipts per ton per mile .....		01.176
Total freight earnings .....		19,674,692 51
Freight earnings per mile of road .....		3,977 80
Freight earnings per train mile .....		1 91.752
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		29,401,494 39
Passenger and freight revenue per mile of road .....		5,974 70
Passenger and freight earnings .....		31,665,984 87
Passenger and freight earnings per mile of road .....		6,434 87
Gross earnings from operation .....		32,226,624 46
Gross earnings from operation per mile of road .....		6,548 82
Gross earnings from operation per train mile .....		1 73.970
Operating expenses .....		20,956,812 64
Operating expenses per mile of road .....		4,258 66
Operating expenses per train mile .....		1 13.130
Income from operation .....		11,269,811 82
Income from operation per mile of road .....		2,290 16
<b>Train mileage:</b>		
Miles run by passenger trains .....	8,095,942	
Miles run by freight trains .....	9,755,328	
Miles run by mixed trains .....	673,498	
Total mileage trains earning revenue .....	18,524,768	
Miles run by switching trains .....	2,217,972	
Miles run by construction and other trains .....	850,335	
Grand total train mileage .....	21,593,075	
Mileage of loaded freight cars—north or east .....	58,462,102	
Mileage of loaded freight cars—south or west .....	64,066,418	
Mileage of empty freight cars—north or east .....	23,425,640	
Mileage of empty freight cars—south or west .....	19,507,142	
Average number of freight cars in train .....	16.125	
Average number of loaded cars in train .....	11.941	
Average number of empty cars in train .....	4.184	
Average number of tons of freight in train .....	162.976	
Average number of tons of freight in each loaded car .....	13.649	

FREIGHT TRAFFIC MOVEMENT (Company's material excluded)—*Pacific System.*

Commodity.	Total Freight Tonnage.	Per Cent.
Products of agriculture:		
Grain .....	794,862	11.95
Flour .....	105,892	1.59
Other mill products .....	68,240	1.03
Hay .....	187,999	2.83
Tobacco .....	5,527	.08
Cotton .....	8,616	.13
Fruit and vegetables .....	420,306	6.32
Other .....	112,704	1.69
Products of animals:		
Live stock .....	298,149	4.48
Dressed meats .....	13,785	.21
Other packing-house products .....	12,825	.19
Poultry, game, and fish .....	20,545	.31
Wool .....	23,421	.35
Hides and leather .....	21,323	.32
Other .....	2,786	.04
Products of mines:		
Anthracite coal .....	225,081	3.38
Coke .....	53,605	.81
Ores .....	48,631	.73
Base metal, pig or bar .....	26,200	.39
Stone, sand, and other like articles .....	231,231	3.48
Other .....	17,033	.26
Products of forest:		
Lumber .....	501,912	5.74
Wood .....	163,761	2.46
Other .....	7,573	.11
Manufactures:		
Petroleum and other oils .....	121,706	1.83
Sugar .....	105,028	1.58
Naval stores .....	3,453	.05
Iron, pig and bloom .....	23,919	.36
Iron and steel rails .....	16,287	.25
Other castings and machinery .....	19,728	.30
Bar and sheet metal .....	22,383	.34
Cement, brick, and lime .....	113,756	1.71
Agricultural implements .....	6,712	.10
Wagons, carriages, tools, etc. ....	13,717	.20
Wines, liquors, and beers .....	175,493	2.64
Household goods and furniture .....	6,851	.10
Other .....	274,448	4.12
Merchandise .....	969,096	14.57
Miscellaneous: Other commodities not mentioned above .....	137,176	2.06
Company .....	1,271,576	19.11
Total tonnage .....	6,653,336	100.00

DESCRIPTION OF EQUIPMENT—*Pacific System.*

Item.	Added During Year.	Number at End of Year.	With Train-Brake.*	With Automatic Coupler.
Locomotives—owned and leased:				
Freight.....	Inc. 14	681	676	-----
Switching.....	Inc. 6	48	48	-----
Total locomotives in service ..	Inc. 20	729	724	-----
Total locomotives owned .....		729	724	-----
Cars—owned and leased—In passenger service:				
First-class cars.....	Inc. 12	447	442	.....447 Miller Hooks.
Second-class cars.....	Inc. 9	98	98	.....98 Miller Hooks.
Combination cars.....	Inc. 12	59	58	.....57 Miller Hooks.
Emigrant cars—tourist.....	Dec. 12	61	61	.....61 Miller Hooks.
Dining cars.....	Inc. 2	9	9	.....9 Miller Hooks.
Parlor cars.....		2	2	.....2 Miller Hooks.
Sleeping cars—first-class .....	Inc. 7	97	97	.....97 Miller Hooks.
Baggage, express, and postal cars	Inc. 3	190	189	.....189 Miller Hooks.
Other cars in passenger service, street car.....		1		-----
Totals.....	Inc. 33	964	956	.....960 Miller Hooks.
In freight service:				
Box cars.....	Inc. 270	9,906	9,254	{.....137 Miller Hooks.
Flat cars.....	Dec. 214	4,019	3,325	{.....4,505 Cal. Couplers.
Stock cars.....		21	16	{.....610 California Couplers.
Coal cars.....	Inc. 6	644	644	.....155 California Couplers.
Tank cars.....	Inc. 25	27	27	.....26 California Couplers.
Refrigerator cars.....		32	32	{.....27 California Couplers.
				{.....3 Janney Couplers.
Totals.....	Inc. 87	14,649	13,298	{.....137 Miller Hooks.
				{.....5,323 Cal. Couplers.
				{.....3 Janney Couplers.
In company's service:				
Officers' and pay cars.....		13	13	.....13 Miller Hooks.
Gravel cars.....	Dec. 21	68		-----
Derrick cars.....		12	11	-----
Caboose cars.....	Inc. 9	266	3	-----
Other road cars—13 snow-plows, 4 snow-plow tenders, 1 tie machine, 14 ice flangers, 18 pile drivers and tenders, 6 creosote plant cars, 86 water.....	Inc. 21	269	143	{.....11 Miller Hooks.
				{.....1 California Coupler.
Totals.....	Inc. 9	628	170	{.....24 Miller Hooks.
				{.....1 California Coupler.
Total cars in service .....	Inc. 129	16,241	14,424	{.....1,121 Miller Hooks.
				{.....3 Janney Couplers.
				{.....5,324 Cal. Couplers.
Total cars owned.....		16,241	14,424	-----6,448

Cars contributed to fast freight line service, none.

\*Westinghouse.



MILEAGE—*Pacific System.*A. *Mileage of Road Operated.*

Line in Use.	Line of Proprietary Companies.	Line Operated Under Lease.	Line Operated Under Contract, Etc.	Line Operated Under Trackage Rights.	Total Mileage Operated
Miles of single track.....	2,786.801	120.510	2,006.310	7.360	4,920.981
Miles of second track.....	49.477		9.510		58.987
Miles of yard track and sidings.....	614.700	35.920	411.060		1,061.680
Total mileage operated (all tracks).....	3,450.978	156.430	2,426.880	7.360	6,041.648

Line in Use.	New Line Constructed During Year.	Iron Rails.	Steel Rails.	Ferry.
Miles of single track.....	46.171	111.032	4,792.899	9.690
Miles of second track.....	5.857	.580	58.407	
Miles of yard track and sidings.....	45.760	627.450	434.230	
Total mileage operated (all tracks).....	97.788	739.062	5,285.536	9.690

B. *Mileage of Line Operated, by States and Territories—Single Track.*

State or Territory.	Line of Proprietary Companies.	Line Operated Under Lease.	Line Operated Under Contract, Etc.	Line Operated Under Trackage Rights.	Total Mileage Operated, Including Ferry.
State of California.....	2,226.571	115.510	753.890	5.640	3,101.611
State of Nevada.....			448.730		448.730
State of Oregon.....			654.040	1.720	655.760
State of Utah.....		5.000	149.650		154.650
Territory of Arizona.....	392.930				392.930
Territory of New Mexico.....	167.300				167.300
State of Texas.....					
Total mileage operated (single track).....	2,786.801	120.510	2,006.310	7.360	4,920.981

State or Territory.	New Line Constructed During Year.	Iron Rails.	Steel Rails.	Ferry.
State of California.....	47.741	89.212	2,997.069	9.690
State of Nevada.....			448.730	
State of Oregon.....	2.260	21.820	632.220	
State of Utah.....	.010		154.650	
Territory of Arizona.....	Dec. .080		392.930	
Territory of New Mexico.....			167.300	
State of Texas.....	Dec. 3.760			
Total mileage operated (single track).....	46.171	111.032	4,792.899	9.690

RENEWALS OF RAILS AND TIES—*Pacific System.*

New Rails Laid During Year.	Tons.	Weight per Yard.	Average Price per Ton at Distributing Point.	New Ties Laid During Year.	Number.	Average Price at Distributing Point.
Steel .....	1,503.73	61.50	\$40 00	Redwood .....	761,963	\$0 53
Steel .....	6,848.22	75.00	40 00	Pine, etc., treated .....	347,513	50½
Steel .....	543.95	76.00	40 00	Pine, etc., untreated .....	36,662	50
Total steel .....	8,895.90	-----	\$40 00	Totals .....	1,146,138	\$0 52 $\frac{15}{100}$

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	* Fuel Oil—Gallons.	Bituminous Coal—Tons.	† Soft Wood—Cords.	Total Fuel Consumed—Tons.	Miles Run.	Average lbs. Consumed per Mile.
Passenger .....	148,675	192,713¼	35,602	211,258	8,095,942	52
Freight .....	1,416	383,738½	44,428½	405,959	9,755,328	83
Switching .....	55,320	45,795½	5,426¼	48,785	2,217,972	44
Construction .....	-----	20,258½	5,543½	23,030	850,335	54
Mixed .....	-----	18,763	4,275	20,901	673,498	62
Totals .....	205,411	661,268¾	95,275¼	709,933	21,593,075	66
Average cost at distributing point.	\$0.0186	\$4 72	\$3 68	-----	-----	-----

\* 200 gallons to ton.

† 2 cords to ton.

ACCIDENTS TO PERSONS—*Pacific System.*

Kind of Accident.	Trainmen.		Switchmen, Flagmen, and Watchmen.		Other Employes.		Total.	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Coupling and uncoupling .....	1	92	-----	23	-----	31	1	146
Falling from trains and engines .....	2	42	2	8	-----	9	4	59
Overhead obstructions .....	-----	9	-----	-----	-----	1	-----	10
Collisions .....	2	31	-----	2	-----	4	2	37
Derailements .....	-----	9	-----	3	-----	1	-----	13
Other train accidents .....	1	31	-----	-----	-----	6	1	37
At highway crossings .....	-----	1	-----	-----	-----	-----	-----	1
At stations .....	-----	40	-----	5	1	18	1	63
Other causes .....	2	135	2	14	8	63	12	212
Totals .....	8	390	4	55	9	133	21	578

ACCIDENTS TO PERSONS—*Pacific System*—Continued.

Kind of Accident.	Passengers.		Others.					
			Trespassing.		Not Trespassing.		Total.	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Collisions .....		23			1	3	1	3
Deraillments .....		33	1	1		4	1	5
Other train accidents .....		8	1	1			1	1
At highway crossings .....		1	12	30			12	30
At stations .....	2	20	2	19			2	19
Other causes .....	7	67	76	111	1	4	77	115
Totals .....	9	152	92	162	2	11	94	173

*Explanation of "Other Causes"—Employés.*

Kind of Accident.	Trainmen.		Switchmen, Flagmen, Watchmen.		Other Employés.		Total.	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Cars struck too hard .....		2				1		3
Brake chain broke .....		2						2
Train broke in two .....		8				1		9
Collision with hand-car and velocipede .....						2		2
Engine boiler blew up .....		1						1
Sudden stopping of train .....	1	5				2	1	7
Squirt hose and tube on engine bursting .....		8						8
Broken wheel .....		2						2
Rough coupling .....		3						3
Totals .....	1	31				6	1	37

*Explanation of "Other Causes"—Others than Employés.*

Kind of Accident.	Passengers.		Others.					
			Trespassing.		Not Trespassing.		Total.	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Engine boiler blew up .....				1				
Collision with street car .....		4		1				1
Rough coupling .....		2						
Broken wheel .....		1						
Sudden starting and stopping of train .....		1	1				1	
Totals .....		8	1	1			1	1



*Explanation of "Other Causes"—Employés.*

Kind of Accident.	Trainmen.		Switchmen, Flagmen, Watchmen.		Other Employés.		Total.	
	Killed.....	Injured ..	Killed.....	Injured ..	Killed.....	Injured ..	Killed.....	Injured ..
Getting on and off moving trains and engines.....		35		4	1	13	1	52
Jammed between cars (not coupling).....	2	2		1	1		3	3
Foreign body in eye.....		32		1		1		34
Stepping on rock, end of tie, etc., causing foot to turn.....		3				4		7
Walking or being on track, struck by engine or car.....		1	2	2	6	5	8	8
Miscellaneous accidents occurring on or about engines.....		27		3		8		38
Passing between cars, foot caught between drawheads.....		1				5		6
Setting brake (rupture).....		1		1				1
Struck by projections (mail catcher, switch stand, etc.).....		7		1		2		10
Foot caught in coal derrick.....		2						2
Handling freight and baggage.....		2				1		3
Struck by block and tackle.....						1		1
Falling from trestle.....						1		1
Loading and unloading track material.....		3				11		14
Rock fell off car.....		3				1		4
Foot caught in turn-table.....		2				1		3
Hand caught in switch.....				1		3		4
Cut by car seal.....		1						1
Struck by hose hanger.....		1						1
Foot caught in frog.....		1				4		5
Door shutting on hand.....		5						5
Falling against window.....		3						3
Skid fell on foot.....		2				2		4
Foot caught under engine.....		2						2
Totals.....	2	135	2	14	8	63	12	212

*Explanation of "Other Causes"—Others than Employés.*

Kind of Accident.	Passengers.		Others.					
			Trespassing.		Not Trespassing.		Total.	
	Killed.....	Injured ..	Killed.....	Injured ..	Killed.....	Injured ..	Killed.....	Injured ..
Walking or being on track, struck by engine.....	1		46	34			46	34
Getting on and off moving trains.....	3	27	16	41			16	41
Falling off trains.....	3	8	9	17		2	9	19
Hand getting caught in brake.....				1				1
Falling over switch.....		2		1				1
Jammed between cars.....					1		1	
Foreign body in eye.....						1		1
Coupling cars.....				1				1
Struck by snow sheds.....		1	2	1			2	1
Passing between cars, foot caught between drawheads.....		1		12				12
Window falling on hand.....		2						
Door shutting on hand.....		9				1		1
Struck by stone thrown at window.....		11						
Falling in car.....		2						
Fell from bridge.....		1	3				3	
Falling against window.....		2		1				1
Struck by brake wheel.....				2				2
Struck by tie.....		1						
Totals.....	7	67	76	111	1	4	77	115

## CAR MILEAGE.

*List of Individuals, Coöperative Fast Freight Lines, and Stock Companies, to which the Company making this Report Paid Mileage for the Use of Cars.*

Name of Owner.	Rate.	Amount.
Abernethy Furniture Co., box cars	$\frac{3}{4}c.$	\$31 69
American Refrigerator Transit Co., box cars	$\frac{3}{4}c.$	821 24
American Brewing Co. Refrigerator Line, box cars	$\frac{3}{4}c.$	75 48
American Cereal Co. Despatch, box cars	$\frac{3}{4}c.$	112 15
American Cotton Oil Co., box cars	$\frac{3}{4}c.$	65 16
Armour Car Lines, box cars	$\frac{3}{4}c.$	26,683 45
Arms Palace Horse Car Co., box cars	$\frac{3}{4}c.$	51 54
Arctic Oil Works, box cars	$\frac{3}{4}c.$	127 99
Boyd, Lunham & Co., box cars	$\frac{3}{4}c.$	25 51
Burton Stock Car Co., box cars	$\frac{3}{4}c.$	22 01
Continental Fruit Express, box cars	$\frac{3}{4}c.$	16,030 70
California Fruit Express, box cars	$\frac{3}{4}c.$	555 41
California Fruit Transportation Co., box cars	$\frac{3}{4}c.$	18,546 75
Canda Cattle Car Co., box cars	$\frac{3}{4}c.$	43 87
Commercial Despatch Line, box cars	$\frac{3}{4}c.$	9 43
Creamery Package Manufacturing Co., box cars	$\frac{3}{4}c.$	246 43
Consolidated Cattle Car Co., box cars	$\frac{3}{4}c.$	13 12
Cottolene Refrigerator Line, box cars	$\frac{3}{4}c.$	193 33
Cudahy Refrigerator Line, box cars	$\frac{3}{4}c.$	1,272 30
Goodell Refrigerator Car Co., box cars	$\frac{3}{4}c.$	136 48
Goodell California Fruit Line, box cars	$\frac{3}{4}c.$	6,901 31
Hammond Refrigerator Line, box cars	$\frac{3}{4}c.$	102 38
Havens, C. B. & Co., box cars	$\frac{3}{4}c.$	837 90
Hicks Stock Car Co., box cars	$\frac{3}{4}c.$	266 59
Healy Refrigerator Line, box cars	$\frac{3}{4}c.$	18 14
Independent Refining Co., box cars	$\frac{3}{4}c.$	134 06
Jacob Dold Packing Co., box cars	$\frac{3}{4}c.$	1,146 49
Kansas City Dressed Beef Line, box cars	$\frac{3}{4}c.$	1,384 11
Kansas Manufacturers' Despatch, box cars	$\frac{3}{4}c.$	69 06
Kingan Refrigerator Line, box cars	$\frac{3}{4}c.$	729 45
Kentucky Refining Co., box cars	$\frac{3}{4}c.$	19 62
Libby, McNeil & Libby, box cars	$\frac{3}{4}c.$	395 01
Lipton Refrigerator Line, box cars	$\frac{3}{4}c.$	326 80
Live Poultry Transportation Co., box cars	$\frac{3}{4}c.$	469 50
Mann Bros., box cars	$\frac{3}{4}c.$	48 23
Monesha Woodenware Co., box cars	$\frac{3}{4}c.$	11 16
Merchants' Despatch Transportation Co., box cars	$\frac{3}{4}c.$	2,818 03
Moran Refrigerator Line, box cars	$\frac{3}{4}c.$	35 79
National Linseed Oil Co., box cars	$\frac{3}{4}c.$	10 88
National Rolling Stock Co., box cars	$\frac{3}{4}c.$	116 85
New England Car Co., box cars	$\frac{3}{4}c.$	22 64
New York Despatch Refrigerator Line, box cars	$\frac{3}{4}c.$	24 81
Omaha Packing Co., box cars	$\frac{3}{4}c.$	1 68
Pacific Coast Oil Co., box cars*	$\frac{3}{4}c.$	3,108 38
Peavey Grain Line, box cars	$\frac{3}{4}c.$	20 85
Pullman's Palace Car Co., first and second class sleepers	3c. and 1c.	7,759 18
Provision Dealers' Despatch, box cars	$\frac{3}{4}c.$	12 41
San Francisco Breweries Car and Transportation Co., box cars	$\frac{3}{4}c.$	3,134 26
St. Charles Car Co., box cars	$\frac{3}{4}c.$	156 41
St. Louis Refrigerator Car Co., box cars	$\frac{3}{4}c.$	2,475 68
Southwestern Refrigerator Despatch, box cars	$\frac{3}{4}c.$	1 65
Southwestern Millers' Despatch, box cars	$\frac{3}{4}c.$	24 73
Street's Western Stable Car Line, box cars	$\frac{3}{4}c.$	84 96
Swift Refrigerator Line, box cars	$\frac{3}{4}c.$	1,431 95
Union Refrigerator Transit, box cars	$\frac{3}{4}c.$	1,637 55
Union Tank Line, box cars	$\frac{3}{4}c.$	23,540 72
Venice Transportation Co., box cars	$\frac{3}{4}c.$	91 46
Wagner Palace Car Co., first and second class sleepers	2c. and 1c.	102 74
Waters-Pierce Oil Co., box cars	$\frac{3}{4}c.$	197 34
Waverly Oil Co., box cars	$\frac{3}{4}c.$	11 46
White Star Transportation Co., box cars	$\frac{3}{4}c.$	286 19
Western Meat Refrigerator Express, box cars	$\frac{3}{4}c.$	12 85
Wogan Bros. Tank Line, box cars	$\frac{3}{4}c.$	12 20
Total		\$125,057 50

\* Five cars leased at \$10 per month each.

STATE OF CALIFORNIA,  
City and County of San Francisco. } ss.

We, the undersigned, C. F. Crocker, Vice-President, and E. C. Wright, Assistant Controller of the Southern Pacific Company, on our oath do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

(Signed:) C. F. CROCKER,  
Vice-President.

(Signed:) E. C. WRIGHT,  
Assistant Controller.

Subscribed and sworn to before me, this 12th day of October, 1896.

[SEAL.]

(Signed:) E. B. RYAN,  
Notary Public in San Francisco, Cal.

## CENTRAL PACIFIC RAILROAD COMPANY.

### HISTORY.

1. Name of common carrier making this report: Central Pacific Railroad Company.
2. Date of organization: August 22, 1870.
3. Under laws of what Government, State, or Territory organized: Incorporated under the laws of the State of California, and of the United States. California: General law of 1861, approved May 20, 1861. United States, 12 Stat. 489; 13 Stat. 356; 14 Stat. 289.
4. Names of constituent companies:

- I. *Central Pacific Railroad Company.* Consolidated June 23, 1870.  
Central Pacific Railroad Company of California, chartered June 28, 1861; amended October 8, 1864.

Western Pacific Railroad Company, }  
chartered December 13, 1862..... } Western Pacific Railroad Company,  
San Francisco Bay Railroad Company. } consolidated November 2, 1869.

- II. *California & Oregon Railroad Company.* Consolidated December 18, 1869.

California & Oregon Railroad Com- }  
pany, chartered June 30, 1865..... }  
Marysville Railroad Company, char- }  
tered November 29, 1867..... } California & Oregon Railroad  
Yuba Railroad Company, chartered } Company, consolidated January  
November 17, 1862..... } 16, 1868.

- III. *San Francisco, Oakland & Alameda Railroad Co.* Consolidated June 29, 1870.

San Francisco & Alameda Railroad }  
Company, chartered March 28, 1863.. }  
San Francisco, Alameda & Stockton }  
Railroad Co., chartered Dec. 8, 1863.. } San Francisco & Alameda Rail-  
San Francisco & Oakland Railroad } road Company, consolidated Octo-  
Company, chartered October 21, 1861. } ber 15, 1868.

- IV. *San Joaquin Valley Railroad Company.* Chartered February 5, 1868.

The above four roads were consolidated August 22, 1870, under the name of the Central Pacific Railroad Company.

5. Authority: General railroad laws of California.
6. Not reorganized.
7. Carrier operating the road of this company: Southern Pacific Company.



## ORGANIZATION.

Names of Directors.	Post Office Address.
C. P. Huntington .....	23 Broad Street, New York.
I. E. Gates .....	23 Broad Street, New York.
Isaac L. Requa .....	San Francisco.
William H. Mills .....	San Francisco.
Charles P. Eells .....	San Francisco.
F. E. Spencer .....	San Francisco.
C. E. Bretherton .....	London, England.

Date of expiration of terms of Directors: April 13, 1897.

Total number of stockholders at date of last election: 1,630.

Date of last meeting of stockholders for election of Directors: April 14, 1896.

Post Office address of general and operating offices: 532 Market Street, San Francisco, and 23 Broad Street, New York.

Name and address of officer to whom correspondence regarding this report should be addressed: W. M. Thompson, Secretary and Auditor, San Francisco, Cal.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	Isaac L. Requa .....	San Francisco.
First Vice-President .....	C. P. Huntington .....	23 Broad St., New York.
Second Vice-President .....	William H. Mills .....	San Francisco.
Third Vice-President .....	I. E. Gates .....	23 Broad St., New York.
Secretary and Auditor .....	W. M. Thompson .....	San Francisco.
Treasurer .....	William H. Mills .....	San Francisco.
General Solicitor and Chief Counsel .....	W. F. Herrin .....	San Francisco.
Land Agent .....	William H. Mills .....	San Francisco.

Other officers are reported by Southern Pacific Company, lessee.

## PROPERTY OPERATED.

(Reported by Southern Pacific Company, lessee.)

## PROPERTY LEASED, OR OTHERWISE ASSIGNED FOR OPERATION.

*Name of Railroad the Income of which from Lease, or from other Assignment for Operation, is included in the Income Account.*

Name.	Miles.
Central Pacific Railroad:	
San José, Cal., to near Ogden, Utah .....	863.12
Roseville to Oregon State line .....	296.58
Lathrop to Goshen .....	146.08
Oakland local lines .....	4.84
Alameda local lines .....	11.46
Ogden Union Station to Utah Central Crossing .....	.11
Oakland to Niles .....	26.39
San Francisco Ferry Line—San Francisco to Oakland Wharf .....	3.69
Leased by C. P. R. R. Co. from Union Pacific Ry. Co.—Ogden, Utah, to 5 miles west .....	5.00
Trackage right from Northern Ry. Co.—Sacramento to Brighton .....	5.64
Total mileage .....	1,362.91

Operated by Southern Pacific Company under lease.

Railroads, equipments, and appurtenances of the Central Pacific Railroad Company leased to the Southern Pacific Company for ninety (90) years from January 1, 1894.

Lessee will pay to lessor a fixed yearly rental amounting to ten thousand dollars (\$10,000), to be applied to maintaining corporate organization.

Lessee is to operate said leased property and apply the earnings and income derived therefrom to paying all operating expenses thereof, incidental expenses connected therewith, including rental of leased lines; and, according to their priorities, to the payment of current interest, sinking fund contributions, United States requirements, etc.

On the 1st day of April in each year lessee shall pay to lessor such balance, if any, of the net earnings or income received by the lessee from leased premises for the year ending on the 31st day of December next preceding, as shall remain in its hands after payments provided for are made; *provided*, that if such balance shall exceed the sum of six (6) per cent of the capital stock of the lessor, the lessee shall retain one half ( $\frac{1}{2}$ ) of such excess.

Lessee shall be entitled to retain and pay to itself whatever may be owing to it from lessor, for and in respect of advances which may have been made by lessee.

Agreement subject to revision and change if found to work to the benefit of one party at the expense of the other.

#### CAPITAL STOCK.

The total par value of capital stock authorized is \$100,000,000, divided into 1,000,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$67,295,500—672,755 shares at \$100 each.

There have been so many consolidations that it is impossible now to correctly trace the manner of payment for all the capital stock. It was issued for cash or its equivalent in material, labor, or services.

#### FUNDED DEBT.

##### *Mortgage Bonds, Miscellaneous Obligations, and Income Bonds.*

Class of Bond or Obligation, and Date of Issue and Maturity.	Authorized Issue.	Amount Issued.	Amount Outstanding.
C.P.R.R. first mortgage, A (extended)—July 1, 1895; Jan. 1, 1898	\$3,000,000	\$2,996,000	\$2,995,000
C.P.R.R. first mortgage, B—July 1, 1866; July 1, 1896	1,000,000	1,000,000	1,000,000
C.P.R.R. first mortgage, C—July 1, 1866; July 1, 1896	1,000,000	1,000,000	1,000,000
C.P.R.R. first mortgage, D—July 1, 1866; July 1, 1896	1,390,000	1,383,000	1,383,000
C.P.R.R. first mortgage, E—Jan. 1, 1867; Jan. 1, 1897	4,000,000	3,997,000	3,997,000
C.P.R.R. first mortgage, F—Jan. 1, 1868; Jan. 1, 1898	4,000,000	3,999,000	3,999,000
C.P.R.R. first mortgage, G—Jan. 1, 1868; Jan. 1, 1898	4,000,000	3,999,000	3,999,000
C.P.R.R. first mortgage, H—Jan. 1, 1868; Jan. 1, 1898	4,000,000	4,000,000	3,999,000
C.P.R.R. first mortgage, I—Jan. 1, 1868; Jan. 1, 1898	3,525,000	3,511,000	3,511,000
W.P.R.R. first mortgage, A—July 1, 1869; July 1, 1899	1,970,000	1,970,000	1,970,000
W.P.R.R. first mortgage, B—July 1, 1868; July 1, 1918	765,000	765,000	765,000
C. & O. first mortgage, A—Jan. 1, 1868; Jan. 1, 1918	6,000,000	6,000,000	5,982,000
C. & O. first mortgage, B—Jan. 1, 1872; Jan. 1, 1918	7,200,000	5,858,000	4,358,000
San Joaquin Valley—Oct. 1, 1870; Oct. 1, 1900	6,080,000	6,080,000	6,080,000
C.P.R.R. Land Grant—Oct. 1, 1870; Oct. 1, 1900	10,000,000	10,000,000	2,506,000
C.P.R.R. 50-year bonds of 1936—Oct. 1, 1886; Oct. 1, 1936			56,000
C.P.R.R. 50-year bonds of 1939—Oct. 1, 1889; Oct. 1, 1939	16,000,000	12,283,000	12,283,000
Totals	\$73,930,000	\$68,841,000	\$59,883,000
United States subsidy bonds	27,855,680	27,855,680	27,855,680
Grand totals	\$101,785,680	\$96,696,680	\$87,738,680

*Interest on above Bonds (paid by lessee from income).*

Class of Bond.	Rate.	When Payable.	Amount Accrued.	Amount Paid.
C. P. R. R. first mortgage, series A (extended) -----	5	Jan.—July.	\$149,750 00	\$74,350 00
C. P. R. R. first mortgage, series B -----	6	Jan.—July.		
C. P. R. R. first mortgage, series C -----	6	Jan.—July.		
C. P. R. R. first mortgage, series D -----	6	Jan.—July.		
C. P. R. R. first mortgage, series E -----	6	Jan.—July.		
C. P. R. R. first mortgage, series F -----	6	Jan.—July.	1,373,280 00	1,462,350 00
C. P. R. R. first mortgage, series G -----	6	Jan.—July.		
C. P. R. R. first mortgage, series H -----	6	Jan.—July.		
C. P. R. R. first mortgage, series I -----	6	Jan.—July.		
W. P. R. R. first mortgage, series A -----	6	Jan.—July.		
W. P. R. R. first mortgage, series B -----	6	Jan.—July.	164,100 00	163,560 00
California & Oregon, series A -----	5	Jan.—July.	299,100 00	301,025 00
California & Oregon, series B -----	5	Jan.—July.	217,900 00	218,350 00
San Joaquin Valley -----	6	April—Oct.	364,800 00	364,440 00
C. P. R. R. Land Grant -----	5	April—Oct.	129,125 00	129,725 00
C. P. R. R. 50-year bonds of 1936 -----	6	April—Oct.	3,360 00	3,360 00
C. P. R. R. 50-year bonds of 1939 -----	5	April—Oct.	614,150 00	611,400 00
United States subsidy bonds -----	6	Jan.—July.	Paid by U. S	Government.
Totals -----			\$3,315,565 00	\$3,328,560 00

Owing to the number of consolidations it is impossible now to correctly trace the manner of payment for bonds. They were all issued for cash or its equivalent.

## RECAPITULATION OF FUNDED DEBT

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds -----	\$68,841,000	\$59,883,000
Miscellaneous obligations—U. S. subsidy bonds -----	27,855,680	27,855,680
Totals -----	\$96,696,680	\$87,738,680

Interest accrued on mortgage bonds during year, \$3,315,565; interest paid by lessee during year, \$3,328,560.

Interest on subsidy bonds paid by United States.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Cash ----- \$226,854 60	Loans and bills payable ----- \$400,000 00
Bills receivable ----- 143,928 34	Audited vouchers and acct's ----- 389,441 51
Due from solvent companies and individuals ----- 374,361 66	Dividends not called for ----- 37,164 00
Other cash assets* ----- 101,738 62	Matured interest coupons unpaid ----- 39,180 00
U. S. Government over all requirements ----- 1,068,161 67	Trustees land grant, mortgage, and uninvested sinking f'ds. ----- 1,022,882 29
Total cash and current assets ----- \$1,915,044 89	Miscellaneous ----- 96,263 00
Balance—current liabilities -- 69,885 91	
Total ----- \$1,984,930 80	Total ----- \$1,984,930 80

\*Materials and supplies on hand, \$1,329,530 71.



## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock.....	\$67,275,500	\$67,275,500	1,348.58	\$49,886 17
Bonds.....	59,883,000	59,883,000	1,348.58	44,409 49
United States subsidy bonds.....	27,855,680	27,855,680	860.66	32,363 49
Totals.....	\$155,014,180	\$155,014,180	1,348.58	\$114,946 22

Capital stock and mortgages cover railroad telegraph lines, rolling stock, ferry, and river steamers; also, lands granted by the United States. (Amount on each cannot be separated.)

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of which are included in the Income Account.*

(Reported by Southern Pacific Company, lessee.)

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

(Not included in operating expenses.)

Item.	Charged to Income Acct. as Permanent Improvements During Year.	Charged to Construction or Equipment During Year.
Construction:		
Right of way.....	\$588 15	-----
Other real estate.....	5,348 50	*\$2,000 00
Fences.....	3,312 32	-----
Grading.....	12,679 05	13,802 32
Bridges and trestles.....	25,855 81	-----
Other superstructure.....	12,997 96	-----
Buildings, furniture, and fixtures.....	85,612 08	-----
Shop machinery and tools.....	26,708 28	-----
Sidings and yard extensions.....	63,616 59	-----
Other items.....	3,054 08	85,073 93
Total construction.....	\$237,772 82	\$96,876 25
Equipment:		
Locomotives.....	*419 13	-----
Totals.....	\$237,353 69	\$96,876 25

\*Credit.

Total cost of construction, equipment, etc., to June 30, 1895, \$171,214,972 55 (impossible to show details); total cost to June 30, 1896, \$171,311,848 80; cost per mile, \$127,031 27.

Operating expenses reported by Southern Pacific Company, lessee.

Total cost of construction and equipment covers cost of ferry and river steamers, etc. The amount per mile of road cannot be correctly stated.

## INCOME ACCOUNT.

Income from lease of road .....		\$4,267,630 41
Dividends on stocks owned .....	\$128 15	
Interest on bonds owned .....	3 60	
Miscellaneous income, less expenses .....	820,988 25	
Income from other sources .....		821,120 00
Total income .....		\$5,088,750 41
Deductions from income:		
Interest on funded debt accrued .....	\$66,264 70	
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	3,315,565 00	
Taxes on subsidy lands .....	90,285 11	
Permanent improvements .....	237,353 69	
Other deductions .....	1,080,622 61	
Total deductions from income .....		4,790,091 11
Net income .....		\$298,659 30
Other payments from net income .....		697,011 82
Deficit from operations of year ending June 30, 1896 .....		\$398,352 52
Surplus on June 30, 1895 .....		2,447,499 94
Surplus on June 30, 1896 .....		\$2,049,147 42
Other deductions:		
Sinking funds, company .....		\$235,000 00
Land Department expenses .....		197,232 58
United States Thurman Act requirements .....		648,390 03
		\$1,080,622 61
Other payments from net income (carried to special income accounts):		
Earnings of company's sinking funds .....		\$511,059 69
Land receipts, applicable to redemption of land bonds .....		185,952 13
		\$697,011 82

## EARNINGS FROM OPERATION.

(Reported by Southern Pacific Company, lessee.)

## RAILWAY AND OTHER STOCKS OWNED.

Name.	Par Value.	Rate.	Income or Dividend Received.	Valuation (nominal).
Newport News & Mississippi Valley Co.	\$1,680,000 00	-----	-----	\$168 00
Coos Bay (Oregon) Coal Company .....	3,449,500 00	-----	-----	3,449 50
Colfax & Forest Hill Commercial Co.	4,660 00	2.53%	\$128 15	2,330 00
Totals .....	\$5,134,160 00	-----	\$128 15	\$5,947 50

## BONDS OWNED.

Name.	Par Value.	Income Received.	Valuation.
U. S. Government fractional Pacific Railroad bond .....	\$120 00	\$3 60	\$120 00
Ogden Union Railway and Depot Company .....	163,000 00	-----	235,905 70
Totals .....	\$163,120 00	\$3 60	\$236,025 70

## RENTS RECEIVED FROM LEASE OF TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## MISCELLANEOUS INCOME.

Item.	Gross Income.	Net Miscellaneous Income.
Rental .....	\$10,000 00	\$10,000 00
Sundry .....	18,500 00	18,500 00
Wells, Fargo & Co., bonus .....	32,000 00	32,000 00
Earnings of sinking funds .....	511,059 69	511,059 69
Land sales, etc. ....	185,952 13	185,952 13
Interest on open accounts .....	63,476 43	63,476 43
Totals .....	\$820,988 25	\$820,988 25

## OPERATING EXPENSES.

(Reported by Southern Pacific Company, lessee.)

## RENTS PAID FOR LEASE OF ROAD, TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$171,214,972 55	Cost of road and cost of equipment .....	\$171,311,848 80	\$96,876 25	
5,947 50	Stocks owned .....	5,947 50		
236,025 70	Bonds owned .....	236,025 70		
99,066 40	Other permanent investments .....	98,733 93		\$332 47
1,975,536 02	Cash and current assets .....	1,915,044 89		60,491 13
1,515,991 05	Materials and supplies .....	1,329,530 71		186,460 34
11,413,982 09	Sinking funds, company .....	12,281,813 38	867,831 29	
15,228,269 46	Sundries .....	15,794,691 10	566,421 64	
\$201,689,790 77	Totals .....	\$202,973,636 01	\$1,283,845 24	
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$67,275,500 00	Capital stock .....	\$67,275,500 00		
60,024,000 00	Funded debt .....	59,883,000 00		\$141,000 00
27,855,680 00	U. S. subsidy bonds .....	27,855,680 00		
1,734,868 47	Current liabilities .....	1,984,930 80	\$250,062 33	
230,170 00	Accrued interest on funded debt not yet payable .....	278,052 50		2,117 50
17,296,894 69	Special income accounts:			
10,503,918 32	Sinking funds of company .....	18,042,954 38	746,059 69	
14,271,259 35	Redemption of land bonds .....	10,684,721 53	180,803 21	
2,447,499 94	U. S. requirements .....	14,919,649 38	648,390 03	
	Profit and loss .....	2,049,147 42		398,352 52
\$201,689,790 77	Totals .....	\$202,973,636 01	\$1,283,845 24	

## IMPORTANT CHANGES DURING THE YEAR.

The Central Pacific Railroad Company's first mortgage bonds, series A, amounting to \$2,995,000, matured July 1, 1895, and were extended to January 1, 1898, and the interest reduced to 5 per cent per annum.

Central Pacific land grant bonds, amounting to \$141,000, redeemed during the year.



## CONTRACTS, AGREEMENTS, ETC.

(Reported by Southern Pacific Company, lessee.)

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.
C. P. R. R. first mortgage, series A B C D	Sacramento to Nevada State line	139.76
E F G H K I	Nevada line to 5 miles W. Ogden	597.74
W. P. R. R. first mortgage, series A	San José to 100 miles E. Brighton	123.16
W. P. R. R. first mortgage, series B	Niles to Oakland	24.00
California & Oregon, series A B	Roseville to Oregon State line	296.50
San Joaquin Valley	Lathrop to Goshen	146.08
C. P. R. R. land grant	All lands granted by U. S. unsold October 1, 1870.	
C. P. R. R. 50-year of 1939	All property owned by Company.	

All equipment and income also mortgaged.

Mortgages cover railroads, telegraph lines, rolling stock, etc. Amount on each cannot be reported separately.

## EMPLOYÉS AND SALARIES.

General officers, 8; total yearly compensation, \$14,500; average daily compensation, \$15 44.

Under terms of lease, the salaries of employés, other than general officers, are paid and reported by Southern Pacific Company, lessee.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

(Reported by Southern Pacific Company, lessee.)

## FREIGHT TRAFFIC MOVEMENT—(Company's material excluded.)

(Reported by Southern Pacific Company, lessee.)

## DESCRIPTION OF EQUIPMENT.

(Reported by Southern Pacific Company, lessee.)

## MILEAGE OF ROAD OPERATED—All Tracks.

(Reported by Southern Pacific Company, lessee.)

## MILEAGE OF LINE OWNED, BY STATES AND TERRITORIES—Single Track.

State or Territory.	Main Line.	Branches and Spurs.	Mileage Owned.	Iron Rails.	Steel Rails.
State of California	264.85	485.35	750.20	4.84	745.36
State of Nevada	448.73		448.73		448.73
State of Utah	149.65		149.65		149.65
Totals	863.23	485.35	1,348.58	4.84	1,343.74

## Not Included.

Trackage	Miles.
Ferry	5.64
Leased	3.69
	5.00

14.33

## RENEWALS OF RAILS AND TIES.

(Reported by Southern Pacific Company, lessee.)

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

(Reported by Southern Pacific Company, lessee.)

## ACCIDENTS TO EMPLOYÉS, PASSENGERS, AND OTHERS.

(Reported by Southern Pacific Company, lessee.)

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles -----	Alignment.		
		Number of Curves.	Aggregate Length of Curved Line—Miles	Length of Straight Line—Miles
San José to five miles west of Ogden.....	863.23	1,136	282.00	581.23
Roseville to Oregon State line .....	296.58	695	99.67	196.91
Lathrop to Goshen .....	146.08	14	8.92	137.16
Oakland local lines .....	4.84	7	0.78	4.06
Alameda local lines.....	11.46	21	3.75	7.71
Oakland to Niles.....	26.39	9	7.05	19.34
	1,348.58			
Northern Railway: Sacramento to Brighton .....	5.64			
Union Pacific Railway: Ogden to five miles west.....	5.00			
Ferry San Francisco Bay: San Francisco to Oakland wharf .....	3.69			
Totals .....	1,362.91	1,882	402.17	946.41

Working Divisions or Branches.	Profile.							Lessed Line and Ferry- Miles
	Length of Level Line—Miles	Ascending Grades.			Descending Grades.			
		Number	Sum of Ascents—Feet	Agg'te Length of Ascending Grades—Miles	Number	Sum of Descents—Feet	Agg'te Length of Descending Grades—Miles	
San José to five miles west of Ogden	145.32	1,164	14,546.10	410.32	844	10,401.00	307.59	
Roseville to Oregon State line	43.17	289	5,674.12	176.93	112	2,965.60	76.48	
Lathrop to Goshen	23.91	95	449.44	79.99	54	188.80	42.18	
Oakland local lines	1.86	2	21.00	2.05	1	23.00	0.93	
Alameda local lines	3.38	36	74.14	5.46	30	50.90	2.62	
Oakland to Niles	8.53	6	236.40	10.85	6	135.00	7.01	
Northern Railway: Sac- ramento to Brighton								5.64
Union Pacific Railway: Ogden to five miles west								5.00
Ferry San Francisco Bay: San Francisco to Oak- land wharf								3.69
Totals	226.17	1,592	21,001.20	685.60	1,047	13,764.30	436.81	14.32

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Iron .....	41	7,335 ft. 2 in.	18 feet.	438 feet.
Wooden .....	73	16,324 ft. 7 in.	24 feet.	960 feet.
Totals .....	114	23,659 ft. 9 in.		
Trestles .....	944	86,702 ft. 9 in.	4 feet.	3,261 feet.
Tunnels .....	29	14,717 ft.	83 feet.	1,795 feet.

Item.	Number.	Height Above Surface of Rail.
Overhead highway crossings: Trestles .....	3	18 feet.
Tunnels .....	29	16½ feet.

Gauge of track, 4 feet 8½ inches; length, 1,348.53 miles.

## TELEGRAPH.

*A. Owned by Company Making this Report, but Operated by Another Company.*

Miles of Line.	Miles of Wire.	Name of Operating Company.
1,355.85	3,217.59	Operated by railroad employes, who report to the Western Union Telegraph Co. for commercial business.

*B. Owned by Another Company, but Located on Property of Road Making this Report.*

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
1,328.21	5,883.79	Western Union Telegraph Co.	Western Union Telegraph Co.

## CAR MILEAGE.

(Reported by Southern Pacific Company, lessee.)

STATE OF CALIFORNIA, }  
County of San Francisco. } ss.

We, the undersigned, Isaac L. Requa, President, and W. M. Thompson, Secretary and Auditor of the Central Pacific Railroad Company, on our oath, do severally say that the foregoing return has been prepared under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

ISAAC L. REQUA,  
President.  
W. M. THOMPSON,  
Secretary and Auditor.

Subscribed and sworn to before me, this 9th day of October, 1896.

E. B. RYAN,  
Notary Public, in San Francisco, Cal



## SOUTHERN PACIFIC RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Southern Pacific Railroad Company.
2. Date of organization: November 3, 1892.
3. Under laws of what Government, State, or Territory organized: Under general laws of the State of California; also Acts of Congress of July 27, 1866 (14 U. S. Stats., p. 292), and March 3, 1891 (16 U. S. Stats., p. 573).
4. Names of constituent companies:

Name of Company.	Incorporated.	With what Company Consolidated.
San Francisco & San José R. R. Co. ....	Aug. 18, 1860	S. P. R. R. Co., Oct. 12, 1870; amended April 15, 1871.
Southern Pacific Railroad Company .....	Dec. 2, 1865	
Santa Clara & Pajaro Valley R. R. Co. ....	Jan. 2, 1868	
California Southern Railroad Company ....	Jan. 22, 1870	
Southern Pacific Railroad Company .....	Oct. 12, 1870	S. P. R. R. Co., Aug. 19, 1873.
Southern Pacific Branch Railroad Co. ....	Dec. 23, 1872	
Southern Pacific Railroad Company .....	Aug. 19, 1873	S. P. R. R. Co., Dec. 18, 1874.
Los Angeles & San Pedro R. R. Co. ....	Feb. 18, 1868	
Southern Pacific Railroad Company .....	Dec. 18, 1874	S. P. R. R. Co., May 14, 1888; amended, Nov. 3, 1892.
San José & Almaden Railroad Co. ....	Mar. 2, 1886	
Pajaro & Santa Cruz Railroad Co. ....	June 3, 1884	
Monterey Railroad Company .....	Jan. 24, 1880	
Monterey Extension Railroad Co. ....	Jan. 6, 1886	
Southern Pacific Branch Railway Co. ....	Apr. 12, 1886	
San Pablo & Tulare Railroad Co. ....	July 19, 1871	
San Pablo & Tulare Extension R. R. Co. ....	Feb. 7, 1887	
San Ramon Valley Railroad Co. ....	Apr. 25, 1888	
Stockton & Copperopolis Railroad Co. ....	Nov. 17, 1877	
Stockton & Tulare Railroad Co. ....	Dec. 2, 1887	
San Joaquin Valley & Yosemite R. R. Co. ....	Feb. 15, 1886	
Los Angeles & San Diego R. R. Co. ....	Oct. 10, 1876	
Los Angeles & Independence R. R. Co. ....	Jan. 8, 1875	
Long Beach, Whittier, & Los Angeles County Railroad Co. ....	Dec. 17, 1887	
Long Beach Railroad Company .....	Oct. 31, 1887	
Southern Pacific R. R. Extension Co. ....	Feb. 21, 1888	
Ramona & San Bernardino R. R. Co. ....	Apr. 25, 1888	

5. Authority for consolidation: General laws of the United States and of the State of California.

6. Name of original corporation, and laws under which it was organized: The Southern Pacific Railroad Company; under the General Railroad Act of the State of California, approved May 20, A. D. 1861.

7. Carrier operating the road of this company: Southern Pacific Company.

## ORGANIZATION.

Names of Directors: Chas. F. Crocker, H. E. Huntington, I. E. Gates, Chas. G. Lathrop, F. S. Dooty, N. T. Smith, J. L. Willcutt; all of San Francisco, except Mr. Gates, whose residence is New York.

Date of expiration of terms of Directors: April 14, 1897.

Number of stockholders at date of last election: 17.

Date of last meeting of stockholders for election of Directors: April 15, 1896.

Post Office address of general office: Room 21, Hobart Building, 532 Market Street, San Francisco.

Post Office address of operating office: Box 2328 P. O., San Francisco.

Address correspondence regarding this report to J. L. Willcutt, Secretary, 532 Market Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board .....	Chas. F. Crocker .....	Union Trust Building, N. E. Corner Mont- gomery and Market Streets, San Francisco.
President .....	Chas. F. Crocker .....	
Vice-President .....	H. E. Huntington .....	
Second Vice-President .....	I. E. Gates (New York) .....	
Secretary .....	J. L. Willcutt .....	
Treasurer .....	N. T. Smith .....	San Francisco.
Attorney, or General Counsel .....	W. F. Herrin .....	
Chief Engineer .....	Wm. Hood .....	
Land Commissioner .....	Jerome Madden .....	
General Agent and Attorney .....	C. P. Huntington .....	New York.

Other officers are reported by the Southern Pacific Company, lessee.

## PROPERTY LEASED OR OTHERWISE ASSIGNED FOR OPERATION.

Name of Road.	Miles.
Southern Pacific Railroad Company of California:	
Coast Division—San Francisco to Tres Pinos .....	100.490
Carnadero to Waldorf .....	198.994
Castroville to Lake Majella .....	19.554
Pajaro to Santa Cruz .....	21.200
Aptos to Monte Vista Extension .....	7.083
Hillsdale to Almaden .....	7.711
Baden to South San Francisco Station .....	1.513
San Bruno toward San Francisco .....	2.159
Southern Division—Alcalde to Yuma, A. T. ....	551.347
Florence to Santa Ana .....	27.820
Los Angeles (Clement Junction) to Port Los Angeles .....	17.866
Home Junction to Soldiers' Home .....	2.971
Burbank to Chatsworth Park .....	21.621
Los Angeles to San Pedro and Point Firmin Lighthouse .....	27.565
Near Martinez to Armona .....	193.275
Berenda to Raymond .....	21.000
Saugus to Ellwood .....	91.500
Thenard to Long Beach .....	4.023
Shorb to Pasadena .....	4.834
Shorb to Monrovia .....	10.750
Bassett to Covina .....	9.557
Studebaker to Whittier .....	5.914
Collis to Poso .....	117.429
Miraflores to Tustin .....	11.703
Ontario to Chino .....	5.780
Near Bakersfield to Asphalto .....	48.057
Declez to Declezville .....	2.552
Redlands Junction to Crafton .....	7.190
Fresno to Pollasky .....	24.112
Stockton Division—Stockton to Milton .....	25.820
Peters to Merced .....	59.262
Avon to San Ramon .....	20.269
Colorado Division—Mojave to Needles (Atlantic & Pacific Railroad Com- pany lease until sale) .....	242.507
Total mileage .....	1,913.430

Leased to Southern Pacific Company for 99 years from March 1, 1885 (subsequently modified to include consolidated lines). Under this lease the lessee is to receive the rents and profits and pay the expenses of operation, maintenance, taxes, and interest on bonded and floating debt. The net profits remaining after payment of these expenses and charges to be apportioned to the Southern Pacific Railroad Company and other lessors upon agreed percentages.

Contract October 1, 1884, for sale of Atlantic & Pacific Railroad Company of road from Mojave to The Needles, 242.51 miles. Till completion of sale Atlantic & Pacific Railroad Company to pay an annual rental of \$136,266, payable semi-annually. This rental appears in the income account of the Southern Pacific Company, as the interest paid by that company as lessee of the Southern Pacific Railroad includes the interest on all the bonds issued on this road.

## CAPITAL STOCK.

The total par value of the capital stock authorized is \$90,000,000, divided into 900,000 shares of a par value of \$100 each. Total amount issued and outstanding is \$70,006,100. The manner of payment for capital stock was as follows:

	Number of Shares Issued.	Cash Realized.	Number Shares Issued and Outstanding.	Total Cash Realized.
Issued for cash—common-----			23,386	\$2,838,600 00
Issued for construction—common-----	16,032	\$1,603,200 00	657,575	65,757,500 00
Issued for bonds of consolidated roads-----			14,100	1,410,000 00
Totals-----	16,032	\$1,603,200 00	700,061	\$70,006,100 00

## FUNDED DEBT.

*Mortgage Bonds, Miscellaneous Obligations, and Income Bonds.*

Class of Bond or Obligation, and Date of Issue and Maturity.	Authorized Issue.	Amount Issued.	Amount Outstanding.	Cash Realized.
Southern Pacific Railroad 6 per cent first mortgage coupon:				
Series A—Apr. 1, 1875; Apr. 1, 1905.	\$15,000,000	\$15,000,000	\$12,819,500	\$14,713,200 00
Series B—Oct. 1, 1875; Oct. 1, 1905.	5,000,000	5,000,000	4,651,000	5,000,000 00
Series C—Oct. 1, 1876; Oct. 1, 1906.	5,000,000	5,000,000	4,081,000	5,000,000 00
Series D—Oct. 1, 1876; Oct. 1, 1906.	5,000,000	5,000,000	3,992,000	5,000,000 00
Series E—Apr. 1, 1882; Apr. 1, 1912.	5,000,000	5,000,000	3,160,000	5,000,000 00
Series F—Apr. 1, 1882; Apr. 1, 1912.	5,000,000	4,285,000	1,964,000	4,422,815 74
Series G-----	6,000,000			
Totals-----	*\$46,000,000	\$39,285,000	\$30,667,500	\$39,136,015 74
S. P. R. R. Co. 5 per cent first mortgage coupon:				
Oct. 1, 1888; Oct. 1, 1938-----	*38,000,000	12,932,000	698,000	12,811,400 00
S. P. R. R. Co. 5 per cent first mortgage coupon:				
Sept. 15, 1893; Nov. 1, 1957-----	89,293,000	16,883,000	16,883,000	16,883,000 00
S. P. Branch Ry. Co. first mortgage coupon:				
April 1, 1887; April 1, 1937-----	*9,000,000	3,578,000	3,578,000	3,578,000 00
Stockton & Copperopolis R. R. Co. first mortgage coupon:				
Jan. 1, 1875; Jan. 1, 1905-----	*500,000	500,000	500,000	500,000 00
	\$182,793,500			
Deduct-----	*93,500,000			
Totals-----	\$89,293,500	\$73,178,000	\$52,326,500	\$72,908,415 74

\* Authorized issue of bonds subject to retirement by mortgage of 1893.



*Interest (payable by lessees).*

Class of Bond.	Rate.	Payable.	Amount Accrued.	Amount Paid.
S. P. R. R. first mortgage coupon, series A to G, inclusive .....	6	Apr.—Oct. ..	\$1,845,609 17	\$1,844,214 17
S. P. R. R. Co. first mortgage coupon, Oct. 1, 1888; Oct. 1, 1938 .....	5	Apr.—Oct. ..	41,133 34	41,050 00
S. P. R. R. Co. first mortgage coupon, Sept. 15, 1893; Nov. 1, 1957 .....	5	May—Nov. ...	822,485 90	796,525 00
S. P. Branch Ry. Co. first mortgage coupon, April 1, 1887; April 1, 1937 .....	6	Apr.—Oct. ..	214,680 00	217,500 00
Stockton & Copperopolis R. R. Co. first mortgage coupon, Jan. 1, 1875; Jan. 1, 1905 .....	5	Jan.—July ..	25,000 00	24,525 00
Totals .....			\$2,948,908 41	\$2,923,814 17

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$73,178,000	\$52,326,500

Interest accrued during year, \$2,948,908 41; interest paid by lessee during year, \$2,923,814 17.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Cash .....	Loans and bills payable .....
Bills receivable .....	Audited vouchers and ac-
Other cash assets .....	counts .....
Total cash and current assets .....	Matured interest coupons un-
Balance—current liabilities .....	paid .....
Total .....	Miscellaneous .....
	Total .....

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Amount Outstanding.	Miles.	Amount per Mile of Line.
Capital stock .....	\$70,006,100 00	1,913.43	\$36,586 70
Bonds .....	52,326,500 00		
Totals .....	\$122,332,600 00	1,913.43	\$63,933 66

Capital stock and mortgage cover railroad and telegraph lines, rolling stock, etc.; also lands granted by the United States. The amount on each cannot be separated.

*B. For Mileage Operated by Road Making this Report (trackage rights excluded), the Operations of which are Included in the Income Account.*

(Reported by Southern Pacific Company, lessee.)

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.
Construction:	
Right of way.....	\$3,343 21
Other real estate.....	287,922 61
Fences.....	10,306 96
Grading, and bridge and culvert masonry.....	11,536 81
Bridges and trestles.....	24,841 60
Beaumont to Palm Springs.....	3,150 14
Second track.....	81,532 24
Other superstructure.....	3,926 16
Buildings, furniture, and fixtures.....	88,619 56
Shop machinery and tools.....	7,079 23
Telegraph line.....	5,271 67
Sidings, yard extensions, and spurs.....	123,341 07
Road built by contract.....	3,017,842 50
Other items.....	1,330 64
Total construction.....	\$3,670,043 90
Equipment:	
16 locomotives.....	\$176,057 40
1 funeral car ("Woodlawn").....	4,774 76
9 sleeping, parlor, and dining cars.....	97,113 81
350 fruit cars.....	146,938 21
Total equipment.....	\$424,884 18
Total cost construction, equipment, etc. ....	\$4,094,928 08

Total cost to June 30, 1895..... \$130,182,264 98

Total cost to June 30, 1896..... 134,277,193 06

Cost per mile (1,913.43 miles)..... 70,176 17

The expenses during the year included in operating expenses, and those charged to income account as permanent improvements, reported by Southern Pacific Company, lessee. Owing to consolidation, etc., it is impossible to state details.

## INCOME ACCOUNT.

Income from lease of road.....		\$3,865,717 07
Miscellaneous income, less expenses.....		def. 136,415 73
Total income.....		\$3,729,301 34
Deductions from income:		
Salaries and maintenance of organization.....	\$27,071 08	
Interest on funded debt accrued.....	2,948,908 40	
Taxes (on land).....	27,949 81	
Total deductions from income.....		3,003,929 29
Net income.....		\$725,372 05
Other payments from net income (sinking fund).....	\$100,000 00	
Set over to special income accounts:		
Income for sinking fund.....	\$166,339 46	
Income from land sales (decrease)....	259,687 89	
	93,348 43	
Total.....	\$6,651 57	6,651 57
Deficit from operations of year ending June 30, 1896.....		\$718,720 48
Surplus on June 30, 1895.....		1,861,619 36
Surplus on June 30, 1896.....		\$2,580,339 84

## EARNINGS FROM OPERATION.

(Reported by Southern Pacific Company, lessee.)

## RENTS RECEIVED FROM LEASE OF TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## MISCELLANEOUS INCOME.

Item.	Gross Income.	Less Expenses.	Net Miscellaneous Income.
Income from land sales for redemption of bonds .....	*\$259,687 89	-----	*\$259,687 89
Income for sinking funds .....	166,339 46	-----	166,339 46
Expenses of Land Department .....	-----	\$43,067 30	*43,067 30
Totals .....	*\$93,338 43	\$43,067 30	*\$136,415 73

\*Decrease.

## OPERATING EXPENSES.

(Reported by Southern Pacific Company, lessee.)

## RENTS PAID FOR LEASE OF ROAD, TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$130,182,264 98	Cost of road and cost of equipment .....	\$134,277,193 06	\$4,094,928 08	
3,418,885 80	Bills receivable and land sales .....	2,980,301 43	-----	\$438,584 37
30,861 39	Cash and current assets .....	111,578 28	80,716 89	
1,544,754 21	Sinking funds .....	1,627,991 15	83,236 94	
\$135,176,766 38	Totals .....	\$138,997,063 92	\$3,820,297 54	-----
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$68,402,900 00	Capital stock .....	\$70,006,100 00	\$1,603,200 00	
50,923,500 00	Funded debt .....	52,326,500 00	1,403,000 00	
584,607 01	Current liabilities .....	773,331 50	188,724 49	
11,783,467 66	Income from land sales for redemption of bonds .....	11,523,780 77	-----	\$259,686 89
1,620,672 35	Income for sinking funds of the company .....	1,787,011 81	166,339 46	
1,861,619 36	Profit and loss .....	2,580,339 84	718,720 48	
\$135,176,766 38	Totals .....	\$138,997,063 92	\$3,820,297 54	-----

## IMPORTANT CHANGES DURING THE YEAR.

- Extensions of Road put in Operation:
 

Near San Luis Obispo to Guadalupe .....	24.900 miles.
Shorb to Pasadena .....	4.834 miles.
Guadalupe to Lake .....	3.399 miles.
Shorb to Monrovia, and extension .....	10.750 miles.
(Woyden) Bassett to Covina .....	9.557 miles.
- Decrease in Mileage: None.
- Important Physical Changes: None.
- Leases Taken: None. Leases surrendered: None.
- Consolidations and Reorganizations Effected: None.



6 and 7. *New stock and bonds issued for Road:*

		Stock.	Bonds.
Near San Luis Obispo to Guadalupe.....	24,900 miles	\$747,000	\$747,000
Shorb to Pasadena .....	4,834 miles		
Shorb to Monrovia .....	10,498 miles	460,000	345,000
Guadalupe to Lake .....	3,399 miles		
Extension from Monrovia .....	.252 miles	109,500	108,000
Woyden to Covina .....	7,557 miles	286,700	215,000
For real estate .....			250,000
In exchange for 5 per cent bonds of 1888 .....			749,000
		\$1,603,200	\$2,414,000

8. *Other important financial changes:* None.

## CONTRACTS, AGREEMENTS, ETC.

(Reported by Southern Pacific Company, lessee.)

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.
Southern Pacific Railroad Company first mortgage 6 per cent (coupon) bonds .....	San Francisco to Tres Pinos .....	100.490
	Huron to east bank Colorado River, near Yuma .....	530.790
	Los Angeles to San Pedro .....	24.650
	Carnadero to San Miguel .....	125.993
	Mojave to Needles .....	242.507
	Huron to Alcalde .....	20.559
	Hillsdale to Almaden .....	7.711
	Pajaro to Santa Cruz .....	21.200
	Aptos to New Monte Vista .....	7.083
	Castroville to Lake Majella .....	19.554
	Martinez to Armona .....	193.275
	Avon to San Ramon .....	20.269
	Collis to near Poso .....	117.429
	Peters to Merced .....	59.262
Southern Pacific Railroad Company first mortgage 5 per cent (coupon) bonds .....	Berenda to Raymond .....	21.000
	Florence to Santa Ana .....	27.320
	Miraflores to Tustin .....	11.703
	Los Angeles (Clement Junction) to Port Los Angeles .....	17.866
	Home Junction to Soldiers' Home .....	2.971
	Burbank to Chatsworth Park .....	21.621
	Studebaker to Whittier .....	5.914
	Thenard to Long Beach .....	4.023
	Shorb to Pasadena .....	4.834
	Shorb to Monrovia and Extension .....	10.750
	Santa Margarita to Lake .....	45.199
	Ontario to Chino .....	5.780
	Near Bakersfield to Asphalto .....	48.057
	Bassett to Covina .....	9.557
	Baden to South San Francisco .....	1.513
	San Bruno toward San Francisco .....	2.159
	Declez to Declezville .....	2.552
	Redlands Junction to Crafton .....	7.190
	Fresno to Pollasky .....	24.112
Southern Pacific Branch Railway Company first mortgage 6 per cent (coupon) bonds .....	San Pedro to Point Firmin Lighthouse .....	2.915
	Saugus N.W. to Ellwood .....	91.500
	San Miguel S.E. to Santa Margarita .....	27.802
Stockton & Copperopolis Railroad Company first mortgage 5 per cent (coupon) bonds .....	Stockton to Milton .....	25.820
	Total .....	1,913.430

Mortgages cover railroads, telegraph lines, rolling stock, etc.; also lands granted by the United States. The amount on each cannot be separated.

All equipment is mortgaged.

Income mortgaged: Sinking fund of \$100,000 per year, commenced 1882; also gross receipts from sales of land. Sinking fund of \$20,000 per year, from 1898 to 1912, and \$120,000 from 1913. Sinking fund of \$50,000 per year that commences 1897.

#### EMPLOYÉS AND SALARIES.

General officers, 3; total yearly compensation, \$10,200; average daily compensation (313 days), \$10 86.

Salaries of other employés reported by Southern Pacific Company.

#### PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

(Reported by Southern Pacific Company, lessee.)

#### FREIGHT TRAFFIC MOVEMENT.

(Reported by Southern Pacific Company, lessee.)

#### DESCRIPTION OF EQUIPMENT.

(Reported by Southern Pacific Company, lessee.)

#### MILEAGE.

##### A. Mileage of Road Operated—All Tracks.

(Reported by Southern Pacific Company, lessee.)

##### B. Mileage of Line Operated, by States and Territories—Single Track.

(Reported by Southern Pacific Company, lessee.)

##### C. Mileage of Line Owned, by States and Territories—Single Track.

State of California.	Main Line.	Line Con- structed During Year.	Iron Rails.	Steel Rails.
Coast Division .....	358,704	28,299	11,920	346,784
Southern Division .....	1,206,868	25,141	2,902	1,203,966
Stockton Division .....	105,351	-----	13,900	91,451
Colorado Division .....	242,507	-----	-----	242,507
Totals .....	1,913,430	53,440	28,722	1,884,708

#### RENEWALS OF RAILS AND TIES.

(Reported by Southern Pacific Company, lessee.)

#### ACCIDENTS TO PERSONS.

(Reported by Southern Pacific Company, lessee.)

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		Profile.							
		No. of Curves...	Length Curved Line—Miles...	Length Straight Line—Miles...	Length of Level Line—Miles...	No. Ascending Grades .....	Sum of Ascents of Ascending Grades—Feet...	Length Ascending Grades—Miles .....	No. Descending Grades .....	Sum of Descents of Descending Grades—Feet...	Length Descending Grades—Miles .....
San Francisco to Tres Pinos	100.490	70	14,316	86,174	19,708	32	1,241.19	50.403	27	724.93	30.379
Carmadero to Waldorf	198.994	386	63,887	135,107	37,793	111	2,293.95	102.390	96	2,233.09	58.811
Castroville to Lake Majella	19,554	46	6,593	12,961	4,228	24	411.90	8,741	23	351.70	6.585
Pajaro to Santa Cruz	21,200	76	7,656	13,544	3,298	22	468.60	8,122	23	473.50	9.780
Aptos to Monte Vista Extension	7,083	122	4,082	3,001	0,150	2	915.40	6,933			
Hillsdale to Almaden	7,711	33	2,590	5,121	1,892	11	200.30	5,819			
Baden to South San Francisco	1,513	3	0,523	0,990	0,012	2	10.53	0,340	12	37.40	1.161
San Bruno to South San Francisco	2,159	5	1,050	1,109	0,329	3	13.11	0,902		18.30	0.928
Alcalde to east bank of Colorado River, near Yuma	551.349	438	111,120	440,219	79,177	91	9,259.60	242.479	83	9,000.21	229.693
Florence to Santa Ana	27,820	4	2,599	25,221	2,594	12	128.00	10,398	15	149.30	14.522
Clement Junction (Los Angeles) to shore end of Port Los Angeles wharf	17,866	21	5,776	12,090	3,384	7	118.39	6,343	13	313.90	8.139
Home Junction to Soldiers' Home	2,971	7	1,218	1,753		2	208.02	2,604	1	30.48	0.367
Burbank to Chatsworth Park	21,621	14	2,780	18,841	5,415	17	389.85	14,880	6	25.90	1.326
Los Angeles to San Pedro, and branch to Point Fermin	27,565	36	6,399	21,166	3,322	6	113.47	2,430	10	352.77	21.813
Near Martinez to Armona	193,275	32	15,170	178,105	59,083	175	690.30	80,783	143	461.44	53.409
Berenda to Raymond	21,000	76	7,950	13,050	3,428	33	789.63	14,671	22	87.47	2.901
Saugus to Ellwood	91,500	225	33,388	58,112	14,190	62	878.39	25,696	68	1,941.13	51.614
Thenard to Long Beach	4,023	3	1,028	2,995	0,544	5	34.49	1,619	4	23.76	1.860
Shorb to Pasadena	4,834	7	1,396	3,438	0,135	2	371.44	4,699	8	179.70	3.977
Shorb to Monrovia and extension	10,750	12	1,914	8,836	1,155	10	263.25	5,618			
Bassett to Covina	9,557	7	1,343	8,214	0,161	2	408.19	9,396			
Studebaker to Whittier	5,914	8	1,513	4,401	0,947	5	153.67	4,327	5	12.46	0.640
Collis to Poso	117,429	37	12,590	104,839	25,536	122	715.84	52,523	100	524.06	39.370
Miraflores to Tustin	11,703	19	2,708	8,995	1,582	9	174.80	4,849	8	219.23	5.272
Ontario to Chino	5,780	4	0,816	4,964					1	269.24	5.780
Bakersfield to Asphalto	48,057	23	6,297	41,760	15,134	55	885.43	14,204	47	175.40	18.719
Declez to Declezville	2,552	5	0,999	1,553	0,307	2	62.51	0,749	1	107.40	1.496
Redlands Junction to Crafton	7,190	11	2,257	4,933	0,265	2	623.38	6,395	2	31.20	0.530
Fresno to Pollasky	24,112	48	4,799	19,313	4,363	32	217.60	13,496	18	150.03	6.255



Stockton to Milton .....	25,820	24	3,799	22,021	2,058	9	384.70	21,801	7	17.70	1,961
Peters to Merced .....	59,262	37	8,236	51,026	19,218	33	422.06	22,694	37	352.44	17,350
Avon to San Ramon .....	20,269	31	5,659	14,610	3,493	12	498.24	15,345	7	41.96	1,431
Mojave to Needles .....	242,507	199	45,443	197,064	21,229	22	3,010.70	86,685	36	5,283.50	134,593
Totals .....	1,913,430	2,069	387,904	1,525,526	334,131	934	26,356.93	848,334	826	23,590.03	730,965

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Iron.....	29	6,179 feet.	28 feet.	1,462 feet 2 in.
Wooden.....	79	13,717 feet.	18 feet.	960 feet.
Totals.....	108	19,896 feet.		
Trestles.....	3,068	156,053 feet.	4 feet.	4,816 feet.
Tunnels.....	36	26,389 feet 2 in.	158 feet 9 in.	6,966 feet 6 in.

Item.	Number.	Height Above Surface of Rail.
Overhead highway crossings:		
Trestles.....	16	17 feet.
Overhead railway crossings:		
Trestles.....	7	18 feet.
Tunnels.....	36	18 feet.

Gauge of track, 4 feet 8½ inches; length, 1,913.43 miles.

## TELEGRAPH.

*A. Owned by Company Making this Report, but Operated by Another Company.*

Miles of Line.	Miles of Wire.	Name of Operating Company.
1,867.106	2,449.666	Operated by railroad employes, who report to Western Union Telegraph Co. for commercial business.

*B. Owned by Another Company, but Located on Property of Road Making this Report.*

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
1,156.53	4,615.11 50.00	Western Union Telegraph Co. Central Pacific R. R. Co.	Western Union Telegraph Co. Western Union Telegraph Co.

## CAR MILEAGE.

(Reported by Southern Pacific Company, lessee.)

STATE OF CALIFORNIA, )  
County of San Francisco. } ss.

We, the undersigned, Chas. F. Crocker, President, and J. L. Willcutt, Secretary, of the Southern Pacific Railroad Company of California, on our oath do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

CHAS. F. CROCKER,  
President.  
J. L. WILLCUTT,  
Secretary.

Subscribed and sworn to before me, this 25th day of September, 1896.

E. B. RYAN,  
Notary Public in San Francisco, Cal.

## CALIFORNIA PACIFIC RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: California Pacific Railroad Company.
2. Date of organization: December 23, 1869.
3. Under laws of what Government, State, or Territory organized: General railroad laws of the State of California.
4. Names of constituent companies:

Name of Company.	Date of Incorporation.
California Pacific Railroad Company.....	Jan. 6, 1865
San Francisco & Marysville Railroad Company .....	Oct. 26, 1857
Sacramento & San Francisco Railroad Company .....	Dec. 2, 1864
California Pacific Extension Railroad Company .....	Apr. 5, 1869
Napa Valley Railroad Company.....	Mar. 2, 1864

5. Date of consolidation: December 23, 1869. Authority: General railroad laws of California.

6. Carrier operating the road of this company: Southern Pacific Company.

## ORGANIZATION.

Names of Directors.	Post Office Address.
T. H. Hubbard.....	23 Broad Street, New York.
N. T. Smith .....	San Francisco.
J. L. Willcutt .....	San Francisco.
C. P. Huntington .....	New York.
W. H. Crocker .....	San Francisco.
H. E. Huntington.....	San Francisco.
C. G. Lathrop .....	San Francisco.

Date of expiration of terms of Directors: April 15, 1897.

Number of stockholders at date of last election: 113.

Last meeting of stockholders for election of Directors: April 15, 1896.

Post Office address of general and operating offices: 4 Montgomery Street, San Francisco, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: G. T. Klink, Secretary, 4 Montgomery Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	T. H. Hubbard .....	New York City.
Vice-President.....	N. T. Smith .....	San Francisco.
Secretary .....	Geo. T. Klink .....	San Francisco.
Treasurer .....	J. L. Willcutt .....	San Francisco.

Other officers are reported by Southern Pacific Company, lessee.

## PROPERTY OPERATED.

(Reported by Southern Pacific Company, lessee.)



## PROPERTY LEASED OR OTHERWISE ASSIGNED FOR OPERATION.

Name of Road.	Miles.
California Pacific Railroad—Vallejo to Sacramento .....	60.39
Davis to Knight's Landing .....	18.64
Napa Junction to Calistoga .....	34.48
	113.51
Ferry—Vallejo Junction to Vallejo .....	2.00
Total mileage .....	115.51

Operated by Southern Pacific Company under lease.

The lines and property of this company are leased to the Southern Pacific Company for fifty (50) years from November 1, 1886.

The lessee is to operate the property and receive all income therefrom. It is to pay the expenses of operation, maintenance, and taxes at its own expense, and is also to add to and better the property, which betterments and additions are to become a charge to this company at the termination of the lease, at their value.

Rental is also paid by the lessee at the rate of \$600,000 per annum, payable semi-annually on June 15th and December 15th of each year.

The terms of the agreement, including the amount of rental, are subject to change at the expiration of each period of five (5) years, upon demand of either party thereto, and any revision proposed is to be determined by arbitration.

While no instrument has been executed changing the terms of the lease, it has long been well understood between the officers of the respective companies that, in consequence of the changes of conditions and circumstances surrounding railroad business since the making of the lease, the terms of the original lease were unduly and unjustly burdensome upon the lessee, and should be extensively modified. It was also understood that certain extraordinary additions to the properties of the California Pacific Railroad Company, not contemplated when the original lease was entered into, including, among other things, the construction of a new bridge over the Sacramento River and a large increase in the quantity of rolling stock, amounting in all to a cost of \$375,000, were absolutely necessary to bring the road and its equipments up to a modern standard of efficiency. An informal understanding was therefore had between the parties that these improvements should be supplied by the lessee, subject to future adjustment.

A proposition is now pending between the Boards of Directors of the respective companies looking to a modification of the lease at the commencement of the next five-year period, so that the interests of both lessor and lessee may be fully protected, and the unsettled matters above referred to equitably adjusted between them.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$12,000,000, divided into 120,000 shares of the par value of \$100 each. The total amount issued and outstanding is \$12,000,000. No dividends were declared.

There were 120,000 shares issued; cash realized, \$12,000,000. Owing to consolidation, full details cannot be shown.

## FUNDED DEBT.

*Mortgage Bonds, Miscellaneous Obligations, and Income Bonds.*

Class of Bond or Obligation, and Date of Issue and Maturity.	Authorized Issue.	Amount Issued.	Amount Outstanding.
First mortgage bonds—January 1, 1867, to January 1, 1912 .....	\$2,250,000 00	\$2,250,000 00	\$2,232,000 00
Second mortgage bonds—August 1, 1871, to January 1, 1911 .....	1,600,000 00	1,600,000 00	1,595,000 00
Third mortgage bonds, Series A—July 1, 1875, to July 1, 1905 .....	2,000,000 00	2,000,000 00	1,998,500 00
Third mortgage bonds, Series B—July 1, 1875, to July 1, 1905 .....	1,000,000 00	1,000,000 00	1,000,000 00
Totals .....	\$6,850,000 00	\$6,850,000 00	\$6,825,500 00

The bonds were issued to contractors for construction; also to take up bonds of prior issue. Interest upon above bonds, as follows:

Class of Bond or Obligation.	Rate.	When Payable.	Interest Accrued.	Interest Paid.
First mortgage bonds .....	4½	Jan. and July.	\$100,440 00	\$101,317 50
Second mortgage bonds .....	4½	Jan. and July.	71,775 00	71,775 00
Third mortgage bonds, Series A .....	6	Jan. and July.	120,000 00	123,585 00
Third mortgage bonds, Series B .....	3	Jan. and July.	30,000 00	30,000 00
Totals .....			\$322,215 00	\$326,677 50

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$6,850,000 00	\$6,825,500 00

Interest accrued during year, \$322,215; interest paid during year, \$326,677 50.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Due from solvent companies and individuals .....	Matured interest coupons unpaid .....
Other cash assets .....	Miscellaneous .....
	Total current liabilities .....
	Balance—cash assets .....
Total .....	Total .....

Materials and supplies on hand, none.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$12,000,000 00	\$12,000,000 00	113.51	\$105,717 56
Bonds .....	6,825,500 00	6,825,500 00		60,131 26
Totals .....	\$18,825,500 00	\$18,825,500 00	113.51	\$165,848 82

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Total cost to June 30, 1895, \$19,536,444 03; total cost to June 30, 1896, \$19,882,093 24; cost per mile, \$175,157 19.

The total cost of construction and equipment includes real estate, etc. The cost per mile of road cannot be correctly stated. On account of consolidations, details as to total cost cannot be shown.

Expenditures during year (operating expenses included) reported by Southern Pacific Company, lessee.

## INCOME ACCOUNT.

Income from lease of road .....		\$600,000 00
Deductions from income:		
Salaries and maintenance of organization .....	\$52 50	
Interest on funded debt accrued .....	322,215 00	
Sinking fund .....	25,000 00	
Interest on open accounts .....	5,521 60	
Total deductions from income .....		352,789 10
Surplus from operations of year ending June 30, 1896 .....		\$247,210 90
Surplus on June 30, 1895 .....		1,970,016 01
Surplus on June 30, 1896 .....		\$2,217,226 91

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$19,536,644 03	Cost of road .....	\$19,882,093 24	\$345,449 21	
1,490,116 38	Cash and current assets .....	1,330,688 67		\$159,247 71
50,000 00	Sinking fund .....	75,000 00	25,000 00	
\$21,076,760 41	Totals .....	\$21,287,781 91	\$211,021 50	
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$12,000,000 00	Capital stock .....	\$12,000,000 00		
6,825,500 00	Funded debt .....	6,825,500 00		
231,244 40	Current liabilities .....	170,055 00		\$61,189 40
50,000 00	Income for sinking funds .....	75,000 00	25,000 00	
1,970,016 01	Profit and loss .....	2,217,226 91	247,210 90	
\$21,076,760 41	Totals .....	\$21,287,781 91	\$211,021 50	

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.
First mortgage bonds .....	Vallejo to Sacramento .....	60.39
Second mortgage bonds .....	Napa Junction to Calistoga .....	34.48
Third mortgage bonds .....	Davis to Knight's Landing .....	18.64

Mortgage covers railroad lines, rolling stock, etc. The amount per mile of road cannot, therefore, be stated.

## EMPLOYÉS AND SALARIES.

General officers, 4. The salaries of other officers and employés, under terms of lease, are paid and reported by Southern Pacific Company, lessee.

## MILEAGE OF LINE OWNED—Single Track.

State.	Main Line.	Branches and Spurs.	Total Mile- age Owned.	Steel Rails— Miles.
State of California .....	60.39	53.12	113.51	113.51

Add 2 miles ferry to make operated mileage.



## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		
		Number of Curves	Aggregate Length of Curved Line—Miles.....	Length of Straight Line—Miles.....
Vallejo to Sacramento.....	60.39	27	6.45	53.94
Napa Junction to Calistoga.....	34.48	34	7.30	27.18
Davis to Knight's Landing.....	18.64	5	.83	17.81
	113.51			
Ferry—Vallejo Junction to Vallejo.....	2.00			
Totals.....	115.51	66	14.58	98.93

Working Divisions or Branches.	Profile.						
	Length of Level Line—Miles.....	Number of Ascending Grades.	Sum of Ascending Grades—Feet....	Aggregate Length of Ascending Grades—Miles..	Number of Descending Grades.	Sum of Descending Grades—Feet.....	Aggregate Length of Descending Grades—Miles....
Vallejo to Sacramento.....	16.32	40	454.5	21.63	41	436.9	22.44
Napa Junction to Calistoga.....	.78	65	492.1	21.85	35	205.2	11.85
Davis to Knight's Landing.....	4.87	14	50.9	7.17	13	60.4	6.60
Totals.....	21.97	119	997.5	50.65	89	702.5	40.89

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Wooden.....	6	1,823 ft. 5 in.	64 feet.	830 ft. 5 in.
Trestles.....	148	17,986 feet.	6 feet.	3,251 feet.
Tunnels.....	1	400 feet.	400 feet.	400 feet.

Item.	Number.	Height Above Surface of Rail.
Overhead highway crossings:		
Trestles.....	1	17 ft. 3 in.
Tunnels.....	1	16 ft. 3 in.

Gauge of track, 4 feet 8½ inches; length, 113.51 miles; ferry, 2 miles.

TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
113.51	559.71	Western Union Telegraph Co.	Western Union Telegraph Co.

STATE OF CALIFORNIA, }  
County of San Francisco. } ss.

We, the undersigned, N. T. Smith, President, and George T. Klink, Secretary, of the California Pacific Railroad Company, on our oath do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

N. T. SMITH,  
Vice-President.  
GEORGE T. KLINK,  
Secretary.

Subscribed and sworn to before me, this 26th day of August, 1896.

E. B. RYAN,  
Notary Public.

## NORTHERN RAILWAY COMPANY.

### HISTORY.

1. Name of common carrier making this report: Northern Railway Company.
2. Date of organization: May 15, 1888.
3. Under laws of what Government, State, or Territory organized: State of California, general railroad laws.
4. Names of constituent companies:

Name of Company.	Date of Incorporation.
Northern Railway Company.....	July 19, 1871
Amador Branch Railroad Company.....	July 3, 1875
Berkeley Branch Railroad Company.....	Sept. 25, 1876
Vaca Valley & Clear Lake Railroad Company.....	Feb. 19, 1877
Sacramento & Placerville Railroad Company.....	Apr. 19, 1877
Sacramento Valley Railroad Company.....	Aug. 4, 1882
Folsom & Placerville Railroad Company.....	Sept. 29, 1876
San Joaquin & Sierra Nevada Railroad Company.....	Mar. 28, 1882
West Side & Mendocino Railroad Company.....	Sept. 2, 1886
Santa Rosa & Carquinez Railroad Company.....	Mar. 25, 1887
Shingle Springs & Placerville Railroad Company.....	May 9, 1887
Woodland, Capay & Clear Lake Railroad Company.....	July 7, 1887
Winters & Ukiah Railroad Company.....	Aug. 9, 1887

5. Date of consolidation: May 15, 1888. Authority: General railroad laws of California.
6. Carrier operating the road of this company: Southern Pacific Company.

### ORGANIZATION.

Names of Directors: Charles F. Crocker, C. G. Lathrop, N. T. Smith, W. H. Crocker, H. E. Huntington, all of San Francisco.

Date of expiration of terms of Directors: April 15, 1897.

Number of stockholders at date of last election: 55.

Last meeting of stockholders for election of Directors: April 15, 1896.

Post Office address of general and operating offices: 4 Montgomery Street, San Francisco.

Name and address of officer to whom correspondence regarding this report should be addressed: G. T. Klink, Secretary, 4 Montgomery Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	Charles F. Crocker .....	San Francisco.
Vice-President .....	C. G. Lathrop .....	San Francisco.
Secretary .....	G. T. Klink .....	San Francisco.
Treasurer .....	N. T. Smith .....	San Francisco.

Other officers are reported by Southern Pacific Company, lessee.

## PROPERTY OPERATED.

(Reported by Southern Pacific Company, lessee.)

## PROPERTY LEASED OR OTHERWISE ASSIGNED FOR OPERATION.

Name of Road.	Miles.
Northern Railway—West Oakland to Delaware Street .....	4.15
West Oakland to near Martinez .....	31.04
Benicia to Suisun .....	16.35
Woodland to Tehama .....	100.84
West Oakland to Berryman .....	5.39
Willows to Fruto .....	16.84
Elmira to Rumsey .....	51.39
Napa Junction to Santa Rosa .....	36.95
Sacramento to Placerville .....	59.73
Galt to Ione .....	27.21
Bracks to Valley Springs (narrow gauge) .....	39.85
Total rail .....	389.74
Ferry: Carquinez Straits—Port Costa to Benicia .....	1.00
Total mileage .....	390.74

All operated by Southern Pacific Company under lease.

The property of this company is leased to the Southern Pacific Company for ninety-nine (99) years from July 1, 1888.

The lessee is to operate the property, and out of the income derived therefrom is to pay the expenses of operation, maintenance, taxes, corporation expenses, and the interest on bonded and floating debt.

Of the net income remaining after such payments, so much thereof as shall amount to six (6) per cent on its capital stock is to be paid to this company, the balance to be retained by the lessee.

Betterments and additions to the leased property are to be made by the lessee, and the payments therefor become annually a charge to this company.

A majority of the capital stock of this company is held by the Southern Pacific Company, acquired in 1888.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$26,175,000, divided into 261,750 shares of \$100 each. The total amount issued and outstanding is \$12,896,000. No dividends were declared.

Owing to consolidations it is impossible to trace the manner of payment for stock. There were 12,896 shares issued; cash realized, \$12,896,000.



## FUNDED DEBT.

*Mortgage Bonds, Miscellaneous Obligations, and Income Bonds.*

Class of Bond or Obligation, and Date of Issue and Maturity.	Authorized Issue.	Amount Issued.	Amount Outstanding.
First mortgage bonds—January 1, 1877, to January 1, 1907 .....	\$6,300,000 00	\$5,156,000 00	\$5,156,000 00
First mortgage bonds—October 1, 1888, to October 1, 1938 .....	21,000,000 00	4,751,000 00	4,751,000 00
Totals .....	\$27,300,000 00	\$9,907,000 00	\$9,907,000 00

Class of Bond or Obligation.	Rate.	When Payable.	Interest Accrued.	Interest Paid.
First mortgage bonds .....	6	Jan. and July.	\$309,360 00	\$309,360 00
First mortgage bonds .....	5	April and Oct..	237,550 00	237,550 00
Totals .....			\$546,910 00	\$546,910 00

Bonds delivered to contractors in payment for construction, and exchanged for bonds of consolidated companies. Interest payable by lessee.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$9,907,000	\$9,907,000

Interest accrued during year, \$546,910; interest paid (by lessee) during year, \$546,910.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Due from solvent companies and individuals..... \$2,137,687 88	Miscellaneous ..... \$47,663 41
	Total current liabilities..... \$47,663 41
	Balance—cash assets ..... 2,090,024 47
Total..... \$2,137,687 88	Total ..... \$2,137,687 88

Materials and supplies on hand, none.

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$12,896,000 00	\$12,896,000 00	389.74	\$33,088 73
Bonds .....	9,907,000 00	9,907,000 00		
Totals .....	\$22,803,000 00	\$22,803,000 00	389.74	\$58,508 24

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of which are Included in the Income Account.*

(Reported by Southern Pacific Company, lessee.)

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.
Right of way .....	\$131 81
Other real estate .....	803 00
Grading, and bridge and culvert masonry .....	47 71
Rails .....	148 48
Buildings, furniture, and fixtures .....	2,114 45
Wharfing, etc. ....	5,545 83
Water supply .....	33 50
Other items .....	2,607 50
Total construction .....	\$11,432 28

Total cost construction, equipment, etc., to June 30, 1895, \$24,755,344 55; total cost to June 30, 1896, \$24,766,776 83; cost per mile, \$63,546 92.

The total cost of construction and equipment includes ferry steamers, etc., therefore the cost per mile of road cannot be correctly stated.

The expenditures charged to income account as permanent improvements, and those included in operating expenses, are reported by the Southern Pacific Company, lessee.

On account of consolidation, details cannot be shown.

## INCOME ACCOUNT.

Income from lease of road .....		\$359,056 43
Miscellaneous income, less expenses .....		154,327 62
Total income .....		\$513,384 05
Deductions from income:		
Salaries and maintenance of organization, paid by lessee ..	\$546,910 00	
Other deductions .....	62,063 78	
Total deductions from income .....		608,973 78
Deficit .....		\$95,589 73
Deficit from operations of year ending June 30, 1896 .....		\$95,589 73
Surplus on June 30, 1895 .....		3,957,479 04
Surplus on June 30, 1896 .....		\$3,861,889 31

Other deductions: Sinking fund requirements, \$6,200 28.

## EARNINGS FROM OPERATION.

(Reported by Southern Pacific Company, lessee.)

## RENTS RECEIVED FROM LEASE OF TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## MISCELLANEOUS INCOME.

Item.	Gross.	Net.
Earnings of sinking funds .....	\$22,000 28	\$22,000 28
Interest on open account .....	132,327 34	132,327 34
Totals .....	\$154,327 62	\$154,327 62

## OPERATING EXPENSES.

(Reported by Southern Pacific Company, lessee.)

## REPORT OF BOARD OF RAILROAD COMMISSIONERS.

## RENTS PAID FOR LEASE OF ROAD, TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$24,755,344 55	Cost of road.....	\$24,766,776 83	\$11,432 28	
2,262,509 61	Cash and current assets.....	2,137,687 88		\$124,821 73
430,410 13	Sinking fund.....	492,410 41	62,000 28	
\$27,448,264 29	Totals.....	\$27,396,875 12		\$51,389 17
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$12,896,000 00	Capital stock.....	\$12,896,000 00		
9,907,000 00	Funded debt.....	9,907,000 00		
65,463 13	Current liabilities.....	47,663 41		\$17,799 72
622,322 12	Income for sinking fund.....	684,322 40	\$62,000 28	
3,957,479 04	Profit and loss.....	3,861,889 31		95,589 73
\$27,448,264 29	Totals.....	\$27,396,875 12		\$51,389 17

## CONTRACTS, AGREEMENTS, ETC.

(Reported by Southern Pacific Company, lessee.)

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.
First mortgage bonds of 1877.....	West Oakland to near Martinez.....	31.04
	Benicia to Suisun.....	16.35
	Woodland to Tehama.....	100.84
	West Oakland to Delaware Street.....	4.15
	West Oakland to Port Costa (second track).....	26.74
	Galt to Ione.....	27.21
First mortgage bonds of 1938.....	West Oakland to Berryman.....	5.39
	Shell Mound to Berryman (second track).....	1.54
	Sacramento to Placerville.....	59.73
	Napa Junction to Santa Rosa.....	36.95
	Willows to Fruto.....	16.84
	Elmira to Rumsey.....	51.39
	Bracks to Valley Springs.....	39.85

Mortgage covers railroad and telegraph lines, rolling stock, steamers, etc. The amount per mile of road cannot, therefore, be stated.

## EMPLOYÉS AND SALARIES.

Under terms of lease, salaries of all officials and employés are paid and reported by Southern Pacific Company, lessee.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

(Reported by Southern Pacific Company, lessee.)

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

(Reported by Southern Pacific Company, lessee.)

## DESCRIPTION OF EQUIPMENT.

(Reported by Southern Pacific Company, lessee.)



MILEAGE OF ROAD OPERATED—All Tracks.  
(Reported by Southern Pacific Company, lessee.)

## MILEAGE OF LINE OWNED, BY STATES AND TERRITORIES—Single Track.

State.	Main Line.	Branches and Spurs.	Mileage Owned.	Iron Rails.	Steel Rails.
State of California .....	148.23	241 51	389.74	35.48	354.26

Add 1 mile ferry to make operated mileage.

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		
		Number of Curves.	Aggregate Length of Curved Line—Miles.....	Length of Straight Line—Miles.....
West Oakland to near Martinez .....	31.04	49	14.20	16.84
Oakland, Sixteenth Street, to Berryman .....	5.39	7	.90	4.49
Oakland, Sixteenth Street, to Delaware Street .....	4.15	3	1.79	2.36
Benicia to Suisun .....	16.35	7	2.23	14.12
Woodland to Tehama .....	100.84	13	4.83	96.01
Willows to Fruto .....	16.84	48	5.76	11.08
Napa Junction to Santa Rosa .....	36.95	77	11.53	25.42
Elmira to Rumsey .....	51.39	70	9.54	41.85
Galt to Ione .....	27.21	28	4.85	22.36
Sacramento to Placerville .....	59.73	154	22.94	36.79
Bracks to Valley Springs .....	39.85	67	8.53	31.32
	389.74			
Ferry: Carquinez Straits—Port Costa to Benicia .....	1.00			
Totals .....	390.74	523	87.10	302.64

## Profile.

Working Divisions or Branches.	Length of Level Line—Miles.....	Number of Ascending Grades.	Sum of Ascents of Ascending Grades—Feet .....	Aggregate Length of Ascending Grades—Miles .....	Number of Descending Grades.	Sum of Descents of Descending Grades—Feet .....	Aggregate Length of Descending Grades—Miles .....
West Oakland to near Martinez .....	16.68	14	61.9	6.93	15	66.1	7.43
Oakland, Sixteenth St., to Berryman .....	.65	3	246.6	4.43	3	2.8	.31
Oakland, Sixteenth St., to Delaware St. ....	.73	4	17.3	1.87	4	15.1	1.55
Benicia to Suisun .....	13.11	12	8.0	1.74	14	11.0	1.50
Woodland to Tehama .....	18.83	60	485.1	52.10	50	319.9	29.91
Willows to Fruto .....	1.41	8	510.9	14.76	5	16.3	.67
Napa Junction to Santa Rosa .....	6.41	31	545.3	16.88	33	446.5	13.66
Elmira to Rumsey .....	7.39	42	668.0	29.83	37	285.7	14.17
Galt to Ione .....	4.71	40	366.6	16.83	19	122.6	5.67
Sacramento to Placerville .....	2.68	139	2,639.4	44.38	50	698.1	12.67
Bracks to Valley Springs .....	6.80	21	696.9	31.27	8	34.4	1.78
Totals .....	79.40	374	6,246.0	221.02	238	2,018.5	89.32

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Wooden .....	19	3,964 feet.	56 feet.	1,072 feet.
Trestles .....	409	29,052 ft. 3½ in.	8 feet.	840 ft. 6 in.
Tunnels .....	3	1,313 ft. 6 in.	338 feet.	604 feet.

Item.	Number.	Height Above Surface of Rail.
Overhead railway crossings:		
Trestles .....	1	19
Tunnels .....	3	20

## Gauge of tracks:

4 feet 8½ inches; length, 349.89 miles.

3 feet; length, 39.85 miles.

## TELEGRAPH.

*A. Owned by Company Making this Report, but Operated by Another Company.*

Miles of Line.	Miles of Wire.	Name of Operating Company.
238.83	295.54	Operated by railroad employes, who report to Western Union Telegraph Company for commercial business.

*B. Owned by Another Company, but Located on Property of Road Making this Report.*

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
228.72	982.88	Western Union Telegraph Co.	Western Union Telegraph Co.

STATE OF CALIFORNIA, )  
County of San Francisco. ) ss.

We, the undersigned, Chas. F. Crocker, President, and George T. Klink, Secretary of the Northern Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

CHAS. F. CROCKER,  
President.  
GEORGE T. KLINK,  
Secretary.

Subscribed and sworn to before me, this 26th day of August, 1896.

E. B. RYAN,  
Notary Public.

## SOUTH PACIFIC COAST RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: South Pacific Coast Railway Company.
2. Date of organization: May 21, 1887.
3. Under laws of what Government, State, or Territory organized: General railroad laws of State of California.
4. Names of constituent companies:

Name of Company.	Date of Incorporation.
Santa Cruz & Felton Railroad Company .....	Nov. 13, 1874
South Pacific Coast Railway Company .....	Mar. 29, 1876
Bay & Coast Railroad Company .....	May 2, 1877
Oakland Township Railroad Company .....	Jan. 7, 1881
San Francisco & Colorado River Railroad Company .....	Jan. 16, 1883
Felton & Pescadero Railroad Company .....	June 13, 1883
Almaden Branch Railroad Company .....	April 16, 1887

5. Date of consolidation: May 21, 1887. Authority: General railroad laws of California.
6. Carrier operating the road of this company: Southern Pacific Company.

## ORGANIZATION.

Names of Directors.	Post Office Address.
T. H. Hubbard .....	23 Broad Street, New York.
Chas. F. Crocker .....	San Francisco.
N. T. Smith .....	San Francisco.
H. E. Huntington .....	San Francisco.
Chas. G. Lathrop .....	San Francisco.
C. P. Huntington .....	23 Broad Street, New York.
R. S. Douty .....	San Francisco.

Date of expiration of terms of Directors: April 15, 1897.

Number of stockholders at date of last election: 10.

Last meeting of stockholders for election of Directors: April 15, 1896.

Post Office address of general and operating offices: 4 Montgomery Street, San Francisco.

Name and address of officer to whom correspondence regarding this report should be addressed: G. T. Klink, Secretary, 4 Montgomery Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	T. H. Hubbard .....	23 Broad Street, New York.
Vice-President .....	Chas. F. Crocker .....	San Francisco.
Secretary .....	Geo. T. Klink .....	San Francisco.
Treasurer .....	N. T. Smith .....	San Francisco.

Other officers are reported by Southern Pacific Company, lessee.

## PROPERTY OPERATED.

(Reported by Southern Pacific Company, lessee.)



## PROPERTY LEASED OR OTHERWISE ASSIGNED FOR OPERATION.

Name of Road.	Miles.
South Pacific Coast Railway: San Francisco to Santa Cruz .....	77.60
Alameda Junction to Oakland, Fourteenth Street .....	1.80
Newark to Centerville .....	3.00
Campbells to New Almaden .....	9.60
Felton to Boulder Creek .....	7.30
Junction South Big Trees to Old Felton .....	1.70
	101.00
Ferry: San Francisco Bay—San Francisco to Alameda .....	3.00
Total mileage .....	104.00

Operated by Southern Pacific Company under lease.

The property of this company is leased to the Southern Pacific Company for fifty-five (55) years, from July 1, 1887.

Out of the income from the property the lessee is to pay the expenses of operation, maintenance, taxes, corporation expenses, interest on bonded and floating debt, betterments and additions, and all other charges.

The balance remaining after such payments is retained by, or the deficit, if any, is charged to, the lessee.

Majority of capital stock of this company acquired by the Southern Pacific, July 1, 1887.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$6,000,000, divided into 60,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$6,000,000. No dividends were declared.

Owing to consolidations it is impossible to trace the manner of payments. There were 6,000 shares issued and the total cash realized was \$6,000,000.

## FUNDED DEBT.

In July, 1887, first mortgage bonds to the amount of \$5,500,000 were issued and cash realized to the full amount. The entire issue is now outstanding. These bonds mature in 1937, and bear 4 per cent interest, payable semi-annually, in January and July. Interest to the amount of \$220,000 accrued during the year, and that amount was paid by the lessee.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$5,500,000 00	\$5,500,000 00

Interest accrued during year, \$220,000; interest paid during year, \$220,000.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$6,000,000 00	\$6,000,000 00	101	\$59,405 94
Bonds .....	5,500,000 00	5,500,000 00		54,455 45
Totals .....	\$11,500,000 00	\$11,500,000 00	101	\$113,861 39

Capital stock and bonds cover railroad, telegraph lines, rolling stock, ferry and transfer steamers, etc. Amount on each cannot be separated.

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

(Reported by Southern Pacific Company, lessee.)

## COST OF CONSTRUCTION, EQUIPMENT, ETC.

Expenditures for year are reported by Southern Pacific Company, lessee. Total cost of construction and equipment to June 30, 1896, \$11,500,000; cost per mile, \$113,861 39. Owing to consolidations it is impossible to show details. Total cost of construction and improvements includes ferry and transfer steamers; the amount per mile of road cannot, therefore, be correctly stated.

## INCOME ACCOUNT.

Income from lease of road, \$220,000. Interest on funded debt accrued, \$220,000.

This company has no income, as its property is operated by lessee in consideration of receiving all revenue therefrom and paying all expenses in connection therewith.

## EARNINGS FROM OPERATION.

(Reported by Southern Pacific Company, lessee.)

## RENTALS RECEIVED.

(Reported by Southern Pacific Company, lessee.)

## OPERATING EXPENSES.

(Reported by Southern Pacific Company, lessee.)

## RENTS PAID FOR LEASE OF ROAD, TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.
\$11,500,000 00	Cost of road.....	\$11,500,000 00
June 30, 1895.	Liabilities.	June 30, 1896.
\$6,000,000 00	Capital stock.....	\$6,000,000 00
5,500,000 00	Funded debt.....	5,500,000 00
\$11,500,000 00	Total.....	\$11,500,000 00

## CONTRACTS, AGREEMENTS, ETC.

(Reported by Southern Pacific Company, lessee.)

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.
First mortgage bonds.....	San Francisco to Santa Cruz.....	77.60
	Alameda Junction to Oakland, Fourteenth Street.....	1.80
	Newark to Centerville.....	3.00
	Campbells to New Almaden.....	9.60
	Felton to Boulder Creek.....	7.30
	Junction South Big Trees to Old Felton.....	1.70

Mortgage covers railroad, telegraph, lines, rolling stock, ferry and transfer steamers. Amount of each cannot be separated.

## EMPLOYÉS AND SALARIES.

(Reported by Southern Pacific Company, lessee.)

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

(Reported by Southern Pacific Company, lessee.)

## FREIGHT TRAFFIC MOVEMENT.

(Reported by Southern Pacific Company, lessee.)

## DESCRIPTION OF EQUIPMENT.

(Reported by Southern Pacific Company, lessee.)

## MILEAGE OF ROAD OPERATED—All Tracks.

(Reported by Southern Pacific Company, lessee.)

## MILEAGE OF LINE OWNED, BY STATES AND TERRITORIES—Single Track.

State.	Main Line.	Branches and Spurs.	Total Mileage Owned.	Iron Rails.	Steel Rails.
California .....	77.60	23.40	101	20.17	80.83

Add ferry (3 miles) to make operated mileage.

## RENEWALS OF RAILS AND TIES, AND CONSUMPTION OF FUEL BY LOCOMOTIVES.

(Reported by Southern Pacific Company, lessee.)

## ACCIDENTS TO PERSONS.

(Reported by Southern Pacific Company, lessee.)

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		
		Number of Curves.	Aggregate Length of Curved Line— Miles	Length of Straight Line—Miles
San Francisco to Santa Cruz .....	77.60	217	18.01	59.59
Alameda Junction to Oakland, Fourteenth Street .....	1.80	5	.45	1.35
Newark to Centerville .....	3.00	3	.50	2.50
Campbells to New Almaden .....	9.60	7	3.10	6.50
Felton to Boulder Creek .....	7.30	37	3.60	3.70
Junction South Big Trees to Old Felton .....	1.70	15	.76	.94
	101.00			
Ferry—San Francisco to Alameda .....	3.00			
Totals .....	104.00	284	26.42	74.58



## CHARACTERISTICS OF ROAD—Continued.

Working Divisions or Branches.	Profile.					
	Length of Level Line—Miles	Number of Ascending Grades	Sum of Ascents of Ascending Grades—Feet	Aggregate Length of Ascending Grades—Miles	Number of Descending Grades	Sum of Descents of Descending Grades—Feet
San Francisco to Santa Cruz	28.98	20	910.0	27.70	20	910.0
Alameda Junction to Oakland, Fourteenth Street	1.18	1	58.9	.62		
Newark to Centerville	2.61	3	7.8	.26	3	3.9
Campbells to New Almaden	2.00	7	9.2	4.59	5	9.0
Felton to Boulder Creek	1.00	12	280.5	5.10	6	49.2
Junction South Big Trees to Old Felton		1	5.1	1.70		
Totals	35.77	44	1,271.5	39.97	34	972.1

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Iron	1	212 feet.	212 feet.	212 feet.
Wooden	28	1,872 feet.	32 feet.	150 feet.
Totals	29	2,084 feet.		
Trestles	153	40,606 feet.	15 feet.	13,558 feet.
Tunnels	7	14,388 feet.	250 feet.	6,108 feet.

tem.	Number.	Height Above Surface of Rail.
Overhead highway crossings:		
Trestles	1	16 ft. 11 in.
Overhead railway crossings:		
Tunnels	7	12 ft. 8 in.

Gauge of track, 3 feet; length, 101 miles; ferry, 3 miles.

## TELEGRAPH OWNED BY COMPANY MAKING THIS REPORT, BUT OPERATED BY ANOTHER COMPANY.

Miles of Line.	Miles of Wire.	Name of Operating Company.
151	185.40	Operated by railroad employes, who report to Pacific Postal Telegraph Cable Company for commercial business.

## CAR MILEAGE.

(Reported by Southern Pacific Company, lessee.)

STATE OF CALIFORNIA,  
County of San Francisco. } ss.

We, the undersigned, Charles F. Crocker, Vice-President, and George T. Klink, Secretary, of the South Pacific Coast Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

CHARLES F. CROCKER,  
Vice-President.  
GEORGE T. KLINK,  
Secretary.

Subscribed and sworn to before me, this 26th day of August, 1896.

E. B. RYAN,  
Notary Public.

## NORTHERN CALIFORNIA RAILWAY COMPANY.

### HISTORY.

1. Name of common carrier making this report: Northern California Railway Company.
2. Date of organization: September 3, 1888.
3. Under laws of what Government, State, or Territory organized: General railway laws of the State of California.
4. Name of original corporation, and laws under which it was organized: Chartered as California Northern Railroad Company, June 29, 1860. Transferred to Northern California Railroad Company, January 1, 1885. Transferred, January 28, 1889, to Northern California Railway Company.
5. Carrier operating the road of this company: Southern Pacific Company.

### ORGANIZATION.

Names of Directors: Charles F. Crocker, F. S. Douty, Charles E. Green, H. E. Huntington, Chas. G. Lathrop, all of San Francisco.  
Date of expiration of terms of Directors: January 4, 1897.  
Number of stockholders at date of last election: 6.  
Last meeting of stockholders for election of Directors: January 7, 1896.  
Post Office address of general office: San Francisco.  
Name and address of officer to whom correspondence regarding this report should be addressed: F. S. Douty, Secretary, San Francisco.

### OFFICERS.

Title.	Name.	Location of Office.
President .....	Charles F. Crocker .....	San Francisco.
Vice-President .....	H. E. Huntington .....	San Francisco.
Secretary and Treasurer .....	F. S. Douty .....	San Francisco.

Other officers are reported by Southern Pacific Company, lessee.

### PROPERTY OPERATED.

(Reported by Southern Pacific Company, lessee.)

### PROPERTY LEASED OR OTHERWISE ASSIGNED FOR OPERATION.

Northern California Railway, Oroville to Knight's Landing, 53.72 miles. Operated by Southern Pacific Company, under lease.  
Leased to the Southern Pacific Company, June 1, 1889, for term of forty years.

The lessee makes all expenditures; pays operating expenses, including betterments and interest on the funded debt, and provides a sinking fund for redemption of the mortgage bonds. The balance, after such payments, is for account of lessee.

The Southern Pacific Company owns a majority of the capital stock, acquired in 1889.

#### CAPITAL STOCK.

The total par value of authorized capital stock is \$1,280,000, divided into 12,800 shares of \$100 each. The total amount issued and outstanding is \$1,280,000. No dividends were declared.

There were 12,800 shares issued; cash realized, \$1,280,000.

#### FUNDED DEBT.

In 1889 first mortgage bonds to the amount of \$1,100,000 were authorized to be issued; amount issued and outstanding, \$1,074,000; cash realized upon amount issued, \$1,074,000. These bonds mature in 1929, and bear 5 per cent interest, payable semi-annually, in June and December. Interest to the amount of \$53,700 accrued during the year, which amount was paid.

#### RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$1,074,000 00	\$1,074,000 00

Interest accrued during the year, \$53,700; interest paid during the year, \$53,700.

#### RECAPITULATION.

##### A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$1,280,000 00	\$1,280,000 00	53.72	\$23,827 00
Bonds .....	1,074,000 00	1,074,000 00		19,993 00
Totals .....	\$2,354,000 00	\$2,354,000 00	53.72	\$43,820 00

##### B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.

(Reported by Southern Pacific Company, lessee.)

#### COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

The expenditures during year charged to account of permanent improvements, and those included in operating expenses, reported by Southern Pacific Company, lessee. Owing to organizations, other details are not known to the present management.

Total cost of permanent improvements to June 30, 1896, \$2,354,000; cost per mile, \$43,820.

#### INCOME ACCOUNT.

Income from lease of road (interest on funded debt paid by lessee), \$53,700; deductions from income (accrued interest on funded debt), \$53,700.

The gross earnings of the road for the year ending December 31, 1895, did not suffice to meet the operating expenses, taxes, and fixed charges, by \$34,087 45, which amount was advanced by the lessee.

#### EARNINGS FROM OPERATION.

(Reported by Southern Pacific Company, lessee.)

#### RENTALS RECEIVED.

(Reported by Southern Pacific Company, lessee.)



## REPORT OF BOARD OF RAILROAD COMMISSIONERS.

## OPERATING EXPENSES.

(Reported by Southern Pacific Company, lessee.)

## RENTS PAID FOR LEASE OF ROAD, TRACKS, YARDS, AND TERMINALS.

(Reported by Southern Pacific Company, lessee.)

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.
\$2,354,000 00	Cost of road and equipment .....	\$2,354,000 00
June 30, 1895.	Liabilities.	June 30, 1896.
\$1,280,000 00	Capital stock .....	\$1,280,000 00
1,074,000 00	Funded debt .....	1,074,000 00
\$2,354,000 00	Total .....	\$2,354,000 00

## CONTRACTS, AGREEMENTS, ETC.

(Reported by Southern Pacific Company, lessee.)

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.
First mortgage bonds .....	Oroville to Knight's Landing...	53.72

Amount of mortgage per mile of line, \$20,000. All equipment mortgaged.

## EMPLOYÉS AND SALARIES.

General officers, 3. Salaries of officers and employés paid and reported by Southern Pacific Company, lessee.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

(Reported by Southern Pacific Company, lessee.)

## FREIGHT TRAFFIC MOVEMENT.

(Reported by Southern Pacific Company, lessee.)

## DESCRIPTION OF EQUIPMENT.

(Reported by Southern Pacific Company, lessee.)

## MILEAGE OF ROAD OPERATED—All Tracks.

(Reported by Southern Pacific Company, lessee.)

## MILEAGE OF LINE OWNED, BY STATES AND TERRITORIES—Single Track.

State.	Main Line.	Steel Rails.
California .....	53.72	53.72

## RENEWALS OF RAILS AND TIES, AND CONSUMPTION OF FUEL BY LOCOMOTIVES.

(Reported by Southern Pacific Company, lessee.)

## ACCIDENTS TO PERSONS.

(Reported by Southern Pacific Company, lessee.)

## CHARACTERISTICS OF ROAD.

Working division, Oroville to Knight's Landing: Length, 53.72 miles; number of curves, 96; aggregate length of curved line, 9.06 miles; length of straight line, 44.66 miles; length of level line, 18.60 miles; number of ascending grades, 146; sum of ascents, 339.1 feet; aggregate length of ascending grades, 26.82 miles; number of descending grades, 71; sum of descents, 177.9 feet; aggregate length of descending grades, 8.30 miles.

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Wooden .....	4	646 feet.	76 feet.	343 feet.
Trestles .....	44	17,498 feet.	15 feet.	11,150 feet.

Gauge of track, 4 feet 8½ inches; length, 53.72 miles.

## TELEGRAPH.

*A. Owned by Company Making this Report.*

Miles of Line.	Miles of Wire.	Name of Operating Company.
27.70	27.70	Operated by employes of railroad company, who report to Western Union Telegraph Company for commercial business.

*B. Owned by Another Company, but Located on Property of Road Making this Report.*

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
25.90	25.90	N. D. Rideout, Marysville, Cal. ...	Sunset Telephone and Telegraph Company.

## CAR MILEAGE.

(Reported by Southern Pacific Company, lessee.)

STATE OF CALIFORNIA, }  
County of San Francisco. } ss.

We, the undersigned, Chas. F. Crocker, President, and F. S. Douty, Secretary and Treasurer, of the Northern California Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing returns embrace all the financial operations of said company during the period for which said return is made.

CHAS. F. CROCKER,  
President.  
F. S. DOUTY,  
Treasurer.

Subscribed and sworn to before me, this 15th day of September, 1896.

E. B. RYAN,  
Notary Public, in San Francisco, Cal.

## SOUTHERN CALIFORNIA RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: Southern California Railway Company.
2. Date of organization: November 7, 1889.
3. Under laws of what Government, State, or Territory organized: Under the general statutes of California.
4. Names of constituent companies:

Names of Companies.	Date of Incorporation.
California Southern Railroad Company .....	Jan. 10, 1882
California Central Railway Company .....	May 20, 1887
Redondo Beach Railway Company .....	April 23, 1888
San Bernardino & Eastern Railway Company .....	Aug. 11, 1890
Santa Fe & Santa Monica Railway Company .....	April 4, 1892

5. Date and authority for each consolidation: Charters filed with the Secretary of State of California, November 7, 1889, and June 27, 1892.

## ORGANIZATION.

Names of Directors.	Post Office Address.
Aldace F. Walker .....	New York.
Edward P. Ripley .....	Chicago.
Geo. G. Haven .....	New York.
Edward N. Gibbs .....	New York.
K. H. Wade .....	Los Angeles.
D. Freeman .....	Los Angeles.
H. W. Hellman .....	Los Angeles.
T. D. Stimson .....	Los Angeles.
Simon Levi .....	San Diego.
Richard Egan .....	Capistrano.
L. C. Waite .....	Riverside.

Date of expiration of terms of Directors: November 5, 1896.

Total number of stockholders at date of last election: 328.

Last meeting of stockholders for election of Directors: November 7, 1895.

Post Office address of general and operating offices: Los Angeles.

Name and address of officer to whom correspondence regarding this report should be addressed: H. C. Whitehead, General Auditor, Chicago, Ill.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board .....	Aldace F. Walker .....	New York.
President .....	E. P. Ripley .....	Chicago.
First Vice-President .....	D. B. Robinson .....	Chicago.
Second Vice-President .....	Paul Morton .....	Chicago.
Secretary .....	L. C. Deming .....	New York.
Treasurer, Assistant Secretary, and Tax Collector .....	G. Halterhoff, Jr. ....	Los Angeles.
General Solicitor .....	E. D. Kenna .....	Chicago.
General Counsel .....	Victor Morrawetz .....	New York.
Solicitor .....	C. N. Sterry .....	Los Angeles.
Comptroller .....	John P. Whitehead .....	New York.
General Auditor .....	H. C. Whitehead .....	Chicago.
Auditor .....	John J. Byrne .....	Los Angeles.
General Manager .....	K. H. Wade .....	Los Angeles.
Chief Engineer .....	F. T. Perris .....	San Bernardino.
Superintendent .....	W. B. Beamer .....	Los Angeles.



## OFFICERS—Continued.

Title.	Name.	Location of Office.
Train Master.....	I. L. Hibbard .....	Los Angeles.
Superintendent of Telegraph.....	W. A. McGovern.....	Los Angeles.
Freight Traffic Manager.....	W. B. Biddle.....	Chicago.
Passenger Traffic Manager.....	W. F. White.....	Chicago.
General Freight Agent.....	F. C. Gay.....	Los Angeles.
Assistant General Freight Agent.....	Edward Chambers.....	Los Angeles.
General Passenger Agent.....	John J. Byrne.....	Los Angeles.
Assistant General Passenger Agent.....	H. K. Gregory.....	Los Angeles.
General Baggage Agent.....	P. Walsh.....	Topeka.
Division Baggage Agent.....	H. Isaacs.....	Los Angeles.

## PROPERTY OPERATED.

Name.	Terminals.	Miles of Line for Each Road.	Miles of Line for Each Class of Roads.
Southern California Railway.	1 A. Barstow to National City .....	210.61	396.30
	San Bernardino to Los Angeles.....	61.91	
	Los Angeles to Los Angeles Junction.....	83.10	
	East Riverside to Orange .....	40.68	
	Perris to San Jacinto .....	19.38	94.68
	Escondido Junction to Escondido .....	21.23	
	San Bernardino to Mentone .....	12.50	
	Ballona Junction to Santa Monica Junction.....	12.46	
	Santa Monica Junction to Santa Monica .....	5.42	
	Inglewood to Redondo Beach.....	10.81	
Elsinore, Pomona, & Los Angeles Ry.	Highland Junction to Mentone.....	12.88	
	Southern Cal. Ry. Junction to Elsinore.....	2.20	2.20
	Total .....		493.18

## PROPERTY LEASED, OR OTHERWISE ASSIGNED FOR OPERATION.

The road of this company is controlled by the Atchison, Topeka & Santa Fe Railway Company, successor to the Atchison, Topeka & Santa Fe Railroad Company, by virtue of ownership of practically the entire issue of common stock and a majority of the preferred stock of this company, acquired prior to the consolidation, November 7, 1889, of the California Southern Railroad Company, the California Central Railway Company, and the Redondo Beach Railway Company (forming the Southern California Railway Company) under agreement for the construction of the road of said companies, dated January 7, 1885, May 24, 1887, and June 9, 1888, respectively.

## CAPITAL STOCK.

Description.	Shares Authorized.	Par Value of Shares.	Par Value Authorized.	Amount Issued and Outstanding.
Capital stock—Common .....	93,600	\$100 00	\$9,360,000 00	\$6,752,000 00
Preferred .....	80,000	\$100 00	8,000,000 00	6,072,000 00
Totals.....	173,600		\$17,360,000 00	\$12,824,000 00
Manner of Payment for Capital Stock.				Number Shares Issued.
Issued for consolidation—Common .....				67,520
Preferred.....				60,720
Total .....				128,240

Common stock issued share for share for stock of California Central Ry. Co., Redondo Beach Ry. Co., San Bernardino & Eastern Ry. Co., and Santa Fe & Santa Monica Ry. Co. Preferred stock issued share for share for stock of the California Southern Railroad Company.

No dividends were paid during the year.

## FUNDED DEBT.

Class of Bond or Obligation, and Date of Issue and Maturity.	Authorized Issue.	Amount Issued.	Amount Outstanding.	Cash Realized on Amount Issued.
California Southern R. R. Co. first mortgage bonds—Jan. 12, 1882; Jan. 1, 1922	\$3,101,000	\$3,101,000	\$1,000	See remarks.
California Southern R. R. Co. first mortgage bonds—Jan. 1, 1886; March 1, 1926	2,106,000	2,106,000	2,056,000	\$2,056,000
California Central Ry. Co. first mortgage bonds—June 1, 1887; June 1, 1932	6,457,000	6,457,000	6,457,000	See remarks.
Redondo Beach Ry. Co. first mortgage bonds—June 1, 1888; June 1, 1932	270,000	270,000	270,000	See remarks.
Totals	\$11,934,000	\$11,934,000	\$8,784,000	
California Southern R. R. Co. income bonds—March 1, 1886; March 1, 1926	3,505,000	{ 3,497,000 *3,740	{ 3,497,000 *3,740	See rem'ks.
Total mortgage bonds	\$11,934,000	\$11,934,700	\$8,784,000	
Total income bonds	3,505,000	3,500,740	3,500,740	
Grand totals	\$15,439,000	\$15,434,740	\$12,284,740	

Class of Bond or Obligation.	Rate.	Interest—When Payable.	Interest Accrued During Year.	Interest Paid During Year.
California Southern R. R. Co. first mortgage bonds				
California Southern R. R. Co. first mortgage bonds	6	Jan. and July	\$123,360	None.
California Central Ry. Co. first mortgage bonds	6	June and Dec.	152,880	None.
Redondo Beach Ry. Co. first mortgage bonds	6	June and Dec.	6,480	None.
Total			\$282,720	
California Southern R. R. Co. income bonds	6			Interest payable only if earned, in Mar. and Sept. Non-cumulative.

\* Strip.

California Southern R. R. Co. first mortgage bonds of 1882 were sold in blocks, together with \$3,036,000 California Southern R. R. Co. capital stock, for \$3,324,000.

California Central Ry. Co. first mortgage bonds were issued, together with \$5,051,000 capital stock, under contract for construction of road.

The Redondo Beach Ry. Co. first mortgage bonds were issued, together with \$275,000 capital stock, for construction of the road of that company.

The California Southern R. R. Co. income bonds were issued in exchange for that company's first mortgage bonds of 1882, and in payment of accrued interest thereon.

The interest on \$2,548,000 California Central Ry. Co. first mortgage bonds and \$108,000 Redondo Beach Ry. Co. first mortgage bonds, only accrued; the balance of these issues participating in the income equally with the income bonds from the date of consolidation, November 1, 1889, in accordance with agreement of A. T. & S. F. Ry. Co. (owner of said bonds) with the security holders of the California Southern R. R. Co.

## EQUIPMENT TRUST OBLIGATIONS.

## A. General Statement.

Series or Other Designation.	Date of Issue.	Term.	Number of Payments.	Equipment Covered.
Equipment lease warrants .....	Dec. 20, 1893.	*	30	4 locomotives.

\*Two years and six months after date of delivery of the locomotives, which occurred on February 29, 1894.

## B. Statement of Amount.

Series or Other Designation.	Original Amount.	Amount Outstanding.
Equipment lease warrants .....	\$43,421 70	\$2,894 78

There was no cash paid on delivery of equipment. No interest outstanding.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.	Interest Accrued During Year.
Mortgage bonds .....	\$11,934,000 00	\$8,784,000 00	\$282,720 00
Income bonds .....	3,500,740 00	3,500,740 00	None.
Equipment trust obligations .....	43,421 70	2,894 78	None.
Totals .....	\$15,478,161 70	\$12,287,634 78	\$282,720 00

No interest paid during year.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Cash .....	Loans and bills payable .....
Bills receivable .....	Audited vouchers and accounts .....
Due from agents .....	Wages and salaries .....
Due from solvent companies and individuals .....	Net traffic balances due to other companies .....
The A. T. & S. F. Ry. Co. ....	Matured interest coupons unpaid .....
Total cash and current assets .....	Total .....
Balance—current liabilities ...	
Total .....	

Materials and supplies on hand, \$108,750 07.

## RECAPITULATION.

For Mileage Owned by Road Making this Report and for Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of which are Included in the Income Account.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$12,824,000 00	----- All	490.98	\$26,119 19
Bonds .....	12,284,740 00	----- All		25,020 86
Equipment trust obligations ..	2,894 78	----- All		5 90
Current liabilities .....	2,301,439 50	----- All		4,687 44
Totals .....	\$27,413,074 28	----- All	490.98	\$55,833 39



## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.
Construction:			
Right of way .....	\$37,904 11	\$82,543 34	\$120,447 45
Fences .....	1,229 27	35,735 09	36,964 36
Grading and bridge and culvert masonry .....	13,075 85	1,494,884 77	1,507,960 62
Bridges and trestles .....	20,001 08	409,843 41	429,844 49
Rails .....	11,562 32	1,349,545 72	1,361,108 04
Ties .....	7,359 80	350,922 40	358,282 20
Buildings, furniture, and fixtures .....	10,050 94	379,909 83	389,960 77
Shop machinery and tools .....	1,795 12	154,639 65	156,434 77
Engineering expenses .....	1,488 67	151,379 35	152,868 02
Discount on securities sold for construction .....		3,629,022 75	3,629,022 75
Telegraph line .....	217 43	13,389 95	13,607 38
Wharfing, etc. ....		226,046 47	226,046 47
Sidings and yard extensions .....	17,086 60	223,071 10	240,157 70
Road built by contract .....		16,059,587 27	16,059,587 27
Other items .....	10,935 58	730,771 77	741,707 35
Total construction .....	\$132,706 77	\$25,291,292 87	\$25,423,999 64
Equipment:			
Locomotives .....	\$4,563 71	\$232,833 33	\$237,397 04
Passenger cars .....	130 94	66,743 03	66,873 97
Baggage, express, and postal cars .....		12,139 57	12,139 57
Combination cars .....		22,806 57	22,806 57
Freight cars .....	13 13	111,406 33	111,419 46
Other cars of all classes .....	4,493 18	22,960 72	27,453 90
Floating equipment .....	*115 00	37,898 03	37,783 03
Total equipment .....	\$9,035 96	\$506,787 58	\$515,873 54
Total cost construction, equipment, etc. ....	\$141,792 73	\$25,798,080 45	\$25,939,873 18

\* Credit.

Cost per mile for construction, \$51,551 16; cost per mile for equipment, \$1,046 17; total cost per mile for construction and equipment, \$52,597 17.

## INCOME ACCOUNT.

Gross earning from operations .....	\$2,164,508 23	
Less operating expenses .....	1,882,354 58	
Income from operation .....		\$282,153 65
Deductions from income:		
Interest on funded debt accrued .....	\$282,720 00	
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	*212 39	
Taxes .....	89,458 37	
Other deductions .....	10,139 03	
Total deductions from income .....		382,105 01
Deficit .....		\$99,951 36
Deficit from operations of year ending June 30, 1896 .....		\$99,951 36
Deficit on June 30, 1895 .....		203,645 86
Additions for year .....		\$303,597 22 10,659 39
Deficit on June 30, 1896 .....		\$292,937 83

\* Credit.

## Additions for year:

Overcharge on account of taxes, year 1887 .....	\$11,685 59
Less uncollectible accounts charged off to profit and loss .....	1,026 20
	\$10,659 39

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Passenger revenue .....	\$763,911 00		
Less tickets redeemed .....		\$2,500 28	
Excess fares refunded .....		1,581 90	
Other repayments .....		1,351 93	
Total deductions .....		\$5,434 11	
Total passenger revenue .....			\$758,476 89
Mail .....			64,222 99
Express .....			43,884 96
Extra baggage and storage .....			23,395 08
Other items .....			4,274 52
Total passenger earnings .....			\$894,254 44
Freight revenue .....	\$1,347,384 67		
Less overcharge to shippers .....		\$108,258 23	
Other repayments .....		185 11	
Total deductions .....		\$108,443 34	
Total freight revenue .....			\$1,238,941 33
Other items .....			1,405 67
Total freight earnings .....			\$1,240,347 00
Total passenger and freight earnings .....			\$2,134,601 44
Other earnings from operation:			
Switching charges—balance .....			\$8,794 91
Telegraph companies .....			5,299 90
Rents not otherwise provided for .....			7,633 54
Other sources .....			8,178 44
Total other earnings .....			\$29,906 79
Total gross earnings from operation .....			\$2,164,508 23

## STOCKS OWNED.

Name.	Par Value.	Valuation.
Marine Railway and Dry Dock Company (146 shares) .....	\$14,600 00	\$15,257 00
San Antonio Water Company (6 shares) .....	600 00	65 80
Santa Ana Valley Irrigation Company (4½ shares) .....	22 50	9 00
Totals .....	\$15,222 50	\$15,331 80

No income or dividend received from stock.

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway	\$221,103 66
Renewals of rails	36,708 76
Renewals of ties	71,785 65
Repairs and renewals of bridges and culverts	75,287 54
Repairs and renewals of fences, road-crossings, signs, and cattle guards	3,219 48
Repairs and renewals of buildings and fixtures	18,901 30
Repairs and renewals of docks and wharves	12,360 11
Repairs and renewals of telegraph	1,821 01
Stationery and printing	295 17
Other expenses	16,345 17
Total	\$457,827 85
Maintenance of equipment:	
Superintendence	\$4,126 75
Repairs and renewals of locomotives	113,425 04
Repairs and renewals of passenger cars	39,643 96
Repairs and renewals of freight cars	40,220 61
Repairs and renewals of work cars	1,991 18
Repairs and renewals of shop machinery and tools	3,120 45
Stationery and printing	369 90
Total	\$202,897 89
Conducting transportation:	
Superintendence	\$40,393 96
Engine and roundhouse men	141,829 22
Fuel for locomotives	361,562 34
Water supply for locomotives	14,831 23
Oil, tallow, and waste for locomotives	7,576 53
Other supplies for locomotives	993 78
Train service	119,157 58
Train supplies and expenses	34,259 98
Switchmen, flagmen, and watchmen	35,132 16
Telegraph expenses	33,814 37
Station service	113,920 35
Station supplies	7,233 03
Car mileage—balance	51,913 49
Hire of equipment	82,947 81
Loss and damage	13,474 24
Injuries to persons	7,832 14
Clearing wrecks	1,794 62
Advertising	17,681 91
Outside agencies	25,826 42
Commissions	3,421 04
Stockyards and elevators	68 35
Rents of buildings and other property	4,038 70
Stationery and printing	9,232 22
Other expenses	9,173 89
Total	\$1,138,109 36
General expenses:	
Salaries of general officers	\$24,399 84
Salaries of clerks and attendants	35,693 42
General office expenses and supplies	4,157 26
Insurance	4,400 00
Law expenses	12,581 99
Stationery and printing (general offices)	2,257 75
Other expenses	29 22
Total	\$83,519 48
Recapitulation of expenses:	
Maintenance of way and structures	\$457,827 85
Maintenance of equipment	202,897 89
Conducting transportation	1,138,109 36
General expenses	83,519 48
Grand total	\$1,882,354 58
Percentage of operating expenses to earnings	86.96



## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.
\$25,291,292 87	Cost of road .....	\$25,423,999 64	\$132,706 77
506,787 58	Cost of equipment .....	515,873 54	9,085 96
15,308 55	Stocks owned .....	15,331 80	23 25
1,283 27	Lands owned .....	1,283 27	
1,078,551 94	Cash and current assets .....	1,094,530 91	15,978 97
45,248 36	Equipment trusts .....	45,248 36	
77,288 09	Materials and supplies .....	108,750 07	10,838 60
43,342 80	Sundries .....	22,719 42	
203,645 86	Profit and loss .....	292,937 83	89,291 97
\$27,262,749 32	Totals .....	\$27,520,674 84	\$257,925 52

June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$12,824,000 00	Capital stock .....	\$12,824,000 00		
12,305,003 46	Funded debt .....	12,287,634 78		\$17,368 68
2,019,319 16	Current liabilities .....	2,301,439 50	\$282,120 34	
13,280 00	Accrued interest on funded debt not yet payable .....	13,280 00		
51,146 70	Sundry accrued liabilities not yet payable .....	43,998 47		7,148 23
50,000 00	Canceled bonds Cali- fornia Southern Rail- road Company .....	50,000 00		
	Rolling stock replace- ment fund .....	322 09	322 09	
\$27,262,749 32	Totals .....	\$27,520,674 84	\$257,92 52	

## IMPORTANT CHANGES DURING THE YEAR.

Line of Elsinore, Pomona & Los Angeles Railway, from junction of Southern California Railway to Elsinore, 2.20 miles opened for operation February 24, 1896.

## CONTRACTS, AGREEMENTS, ETC.

1. With Wells, Fargo & Co. Express.
2. With United States Government Post Office Department.
3. With Pullman Palace Car Company.
- 5, 6. Traffic contracts with Los Angeles Terminal Railway, Redondo Railway, Southern Pacific, Santa Ana & Newport Railway, and Pacific Coast Steamship Company.
7. With Western Union Telegraph Company.
8. With Sunset Telephone and Telegraph Company.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Mortgage Per Mile of Line.
Cal. So. R. R. Co. first mortgage (1886)	Barstow to National City. San Bernardino to Los Angeles	210.61	\$9,761 20
Cal. Cent'l Ry. Co. first mortgage	Los Angeles to Los Angeles Junction East Riverside to Orange. Perris to San Jacinto Escondido Junction to Escondido San Bernardino to Mentone Ballona Junction to Santa Monica Junction	251.26	25,698 48
Redondo Beach Railway Company first mortgage	Inglewood to Redondo Beach	10.81	24,974 10

All equipment is mortgaged.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Days Worked.	Yearly Compensation.	Average Daily Compensation.
General officers	8	2,928	\$36,600 00	\$12 50
Other officers	5	1,830	9,720 00	5 31
General office clerks	73	25,916	64,214 00	2 48
Station agents	3	27,472	56,826 00	2 07
Other station men	119	43,951	83,375 00	1 90
Enginemen	46	17,170	76,006 00	4 43
Firemen	50	17,441	46,796 00	2 68
Conductors	33	14,973	53,216 00	3 55
Other trainmen	79	29,058	71,275 00	2 45
Machinists	73	25,570	70,097 00	2 74
Carpenters	97	30,351	74,004 00	2 44
Other shopmen	74	32,417	59,815 00	1 85
Section foremen	67	24,016	52,263 00	2 13
Other trackmen	296	93,213	143,230 00	1 54
Switchmen, flagmen, and watchmen	34	13,535	34,899 00	2 58
Telegraph operators and dispatchers	11	3,652	10,552 00	2 89
All other employés and laborers	116	35,502	77,131 00	2 17
Totals (including general officers)	1,284	438,995	\$1,020,019 00	\$2 32
Less general officers	8	2,928	36,600 00	
Totals (excluding general officers)	1,276	436,067	\$983,419 00	\$2 26
Distribution of above:	86	30,674	\$110,534 00	\$3 60
General administration	465	153,671	274,736 00	1 79
Maintenance of way and structures	142	51,896	124,673 00	2 40
Maintenance of equipment	591	202,754	510,076 00	2 52
Conducting transportation				
Totals (including general officers)	1,284	438,995	\$1,020,019 00	\$2 32
Less general officers	8	2,928	36,600 00	
Totals (excluding general officers)	1,276	436,067	\$983,419 00	\$2 26

Forty-nine station agents are also telegraph operators.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	775,763	
Number of passengers carried one mile .....	31,785,433	
Number of passengers carried one mile per mile of road .....	64,642	
Average distance carried—miles .....	40.97	
Total passenger revenue .....		\$758,476 89
Average amount received from each passenger .....		97.772
Average receipts per passenger per mile .....		2.386
Total passenger earnings .....		894,254 44
Passenger earnings per mile of road .....		1,818 66
Passenger earnings per train mile .....		93.754
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	569,972	
Number of tons carried one mile .....	49,701,466	
Number of tons carried one mile per mile of road .....	101,078	
Average distance haul of one ton—miles .....	87.20	
Total freight revenue .....		1,238,941 33
Average amount received for each ton of freight .....		2 17.369
Average receipts per ton per mile .....		2.493
Total freight earnings .....		1,240,347 00
Freight earnings per mile of road .....		2,522 52
Freight earnings per train mile .....		2 58.031
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		1,997,418 22
Passenger and freight revenue per mile of road .....		4,062 19
Passenger and freight earnings .....		2,134,601 44
Passenger and freight earnings per mile of road .....		4,341 18
Gross earnings from operation .....		2,164,508 23
Gross earnings from operation per mile of road .....		4,402 00
Gross earnings from operation per train mile .....		1 50.886
Operating expenses .....		1,882,354 58
Operating expenses per mile of road .....		3,828 18
Operating expenses per train mile .....		1 31.218
Income from operation .....		282,153 65
Income from operation per mile of road .....		573 82
<b>Train mileage:</b>		
Miles run by passenger trains .....	925,877	
Miles run by freight trains .....	396,826	
Miles run by mixed trains .....	111,827	
Total mileage trains earning revenue .....	1,434,530	
Miles run by switching trains* .....	246,356	
Miles run by construction and other trains .....	52,175	
Grand total train mileage .....	1,733,061	
Mileage of loaded freight cars—north or east .....	2,681,349	
Mileage of loaded freight cars—south or west .....	2,167,538	
Mileage of empty freight cars—north or east .....	1,067,270	
Mileage of empty freight cars—south or west .....	1,424,610	
Average number of freight cars in train .....	17	
Average number of loaded cars in train .....	11	
Average number of empty cars in train .....	6	
Average number of tons of freight in train .....	41	
Average number of tons of freight in each loaded car .....	3.9	

\* Miles of switch-engines used for mileage of switching trains.



## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road— Tons.	Received from Connecting Roads— Tons.	Total Freight Tonnage.	Per Cent.
Products of agriculture:				
Grain .....	43,136	7,078	50,214	8.81
Flour .....	2,258	5,242	7,500	1.32
Other mill products .....	4,853	117	4,970	0.87
Hay .....	9,649	176	9,825	1.72
Fruit and vegetables .....	81,551	12,456	94,007	16.49
Products of animals:				
Live stock .....	3,994	3,432	7,426	1.30
Dressed meats .....	130	130	130	0.02
Other packing-house products ..	625	952	1,577	0.28
Poultry, game, and fish .....	302	577	879	0.15
Wool .....	850	426	1,276	0.22
Hides and leather .....	405	67	472	0.08
Products of mines:				
Bituminous coal .....	625	60,122	60,747	10.66
Coke .....	215	686	686	0.12
Ores .....	215	215	215	0.04
Stone, sand, and other like articles .....	19,879	1,499	21,378	3.75
Products of forest:				
Lumber .....	10,765	95,923	106,688	18.72
Manufactures:				
Petroleum and other oils .....	11,240	12,179	23,419	4.11
Sugar .....	815	3,429	4,244	0.74
Iron, pig and bloom .....	2,519	2,519	2,519	0.44
Iron and steel rails .....	1,335	1,335	1,335	0.23
Other castings and machinery ..	956	5,808	6,764	1.19
Bar and sheet metal .....	1,242	6,826	8,068	1.42
Cement, brick, and lime .....	45,626	9,822	55,448	9.73
Agricultural implements .....	165	867	1,032	0.18
Wagons, carriages, tools, etc. ....	237	2,430	2,717	0.48
Wines, liquors, and beers .....	4,083	2,329	6,412	1.13
Household goods and furniture ..	5,637	4,882	10,519	1.85
Merchandise .....	23,790	22,372	46,162	8.10
Miscellaneous: Other commodi- ties not mentioned above .....	27,418	5,925	33,343	5.85
Total tonnage .....	300,496	269,476	569,972	100.00

## MILEAGE.

## A. Mileage of Road Operated—All Tracks.

Line in Use.	Main Line.	Branches and Spurs.	Line of Proprietary Companies.	Total Mileage Operated.	New Line Constructed During Year.	Steel Rails.
Miles of single track .....	396.30	94.68	2.20	493.18	-----	493.18
Miles of yard track and sid- ings .....	78.23	13.57	-----	91.80	2.67	91.80
Total mileage operated .....	474.53	108.25	2.20	584.98	2.67	584.98

## B. Mileage of Line Operated by States and Territories—Single Track.

State.	Main Line.	Branches and Spurs.	Line of Proprietary Companies.	Total Mileage Operated.	Steel Rails.
State of California .....	396.30	94.68	2.20	493.18	493.18

*C. Mileage of Line Owned by States and Territories—Single Track.*

State.	Main Line.	Branches and Spurs.	Total Mileage Operated.	Steel Rails.
State of California .....	396.30	94.68	490.98	490.98

## DESCRIPTION OF EQUIPMENT.

Item.	Added During Year.	Total at End of Year.	With Train Brake.	With Automatic Coupler.
Locomotives:				
Passenger.....		12	12	12
Freight.....		12	12	12
Switching.....		1	1	1
Total locomotives.....		25	25	
Cars in passenger service:				
Second-class cars.....	*1	4	4	4
Combination cars.....		11	11	11
Baggage, express, and postal cars.....		3	3	3
Total.....		18		
Cars in freight service:				
Box cars.....	*4	38	38	
Flat cars.....	*3	97	97	
Coal cars.....	*1	29	29	
Tank cars.....	10	25	25	
Total.....	*9	189		
Cars in company's service:				
Officers' and pay cars.....		1	1	1
Gravel cars.....		16	16	
Derrick cars.....		1	1	
Other road cars.....		7	7	
Total.....		25		
Total cars owned and in service.....	*9	232		

\* Deductions.

All rolling stock is equipped with the Westinghouse air-brake, the locomotives with link-and-pin couplers, and cars with the Miller automatic hook coupler.

## NEW RAILS LAID DURING YEAR.

Kind.	Tons.	Weight per Yard.	Average Price per Ton at Distributing Point.
Steel.....	14,247 <sub>2240</sub>	40 lbs.	\$22 64
Steel.....	256 <sub>3840</sub>	50 lbs.	24 15
Steel.....	356 <sub>4800</sub>	56 lbs.	26 23
Steel.....	238 <sub>3200</sub>	61 lbs.	24 08
Steel.....	536 <sub>7200</sub>	66 lbs.	37 69
Totals.....	1,402 <sub>2240</sub>		\$29 85

## NEW TIES LAID DURING YEAR.

Kind.	Number.	Average Price at Distributing Point.
Redwood cross.....	186,748	\$0 35
Cedar.....	9,835	0 50
Oregon pine bridge.....	5,364	0 43
Oregon pine switch.....	5,934	0 51
Totals.....	207,881	\$0 36

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Hard Wood—Cords.	Total Fuel Consumed—Tons.	Miles Run.	Average Lbs. Consumed per Mile.
Passenger.....	26,388 <sup>555</sup> <sub>2000</sub>	14	26,397 <sup>240</sup> <sub>2000</sub>	976,390	54.07
Freight.....	31,822 <sup>550</sup> <sub>2000</sub>	17 <sup>32</sup>	31,833 <sup>550</sup> <sub>2000</sub>	598,643	106.35
Switching.....	5,389 <sup>1825</sup> <sub>2000</sub>	3	5,390 <sup>1825</sup> <sub>2000</sub>	246,356	43.76
Construction.....	1,446 <sup>1225</sup> <sub>2000</sub>	1	1,447 <sup>1225</sup> <sub>2000</sub>	56,388	51.33
Totals.....	*65,046 <sup>875</sup> <sub>2000</sub>	35 <sup>3</sup>	65,069 <sup>1872</sup> <sub>2000</sub>	1,877,777	69.31

\*Includes 23,471<sup>1000</sup><sub>2000</sub> tons oil, taken at  $1\frac{1}{4}$  tons coal to 1 ton oil, equaling 29,342<sup>375</sup><sub>2000</sub> tons coal.

Average cost of coal at distributing point, \$5 74 per ton; average cost of wood at distributing point, \$4 31 per cord.

## ACCIDENTS TO PERSONS.

Kind of Accident.	Trainmen Injured.	Switchmen, Flagmen, and Watchmen Injured.	Other Employes Killed.	Other Employes Injured.	Total Killed.	Total Injured.....
Coupling and uncoupling.....	11	7	—	—	—	18
Falling from trains and engines.....	13	3	—	1	—	17
Overhead obstructions.....	2	—	—	—	—	2
Collisions.....	1	—	—	1	—	2
Derailements.....	3	—	—	—	—	3
Other train accidents.....	6	2	—	—	—	8
At stations.....	5	—	1	10	1	15
Other causes.....	19	6	—	39	—	64
Totals.....	60	18	1	51	1	129

Kind of Accident.	Passengers Injured.	Trespassers Killed.	Trespassers Injured.	Others Killed.	Others Injured.	Total Killed.	Total Injured.....
Collisions.....	7	—	—	—	—	—	7
Derailements.....	9	—	—	—	—	—	9
At highway crossings.....	—	—	—	2	3	—	—
At stations.....	5	3	4	1	—	3	9
Other causes.....	3	5	5	—	—	5	8
Totals.....	24	8	9	3	3	8	33



*Other train accidents:*

Employés injured—	
Engineers scalded by water-glass breaking.....	3
Engineer's arm broken by engine side-rod breaking.....	1
Fireman scalded by crown sheet blowing out.....	1
Brakeman bruised by car of lumber shifting.....	1
Switchman bruised by blowing out of cylinder head.....	2

8

*Other causes:*

Employés injured—	
Trainman—putting pin under car wheel.....	1
Trainman—ankle turned stepping off running board of engine.....	1
Trainmen—leg sprained in getting on moving train.....	3
Trainmen—cinder in eye.....	2
Trainmen—ankle sprained.....	2
Trainman—trunk fell on hand.....	1
Trainman—arm bruised, releasing brake.....	1
Trainman—feet frozen.....	1
Engineer—run large splinter in hand.....	1
Engineers—caught hand in lever.....	2
Engineer—hand burned in cleaning front end.....	1
Fireman—caught hand in fire door.....	2
Fireman—scalded by valve working open.....	1
Switchman—foot bruised in getting off car.....	2
Switchman—cinder in eye.....	1
Switchman—struck by piece of ice thrown at car.....	1
Switchman—bruised hand lifting draw bar.....	1
Switchman's back wrenched throwing switch.....	1

25

## Other employés injured—

Sectionmen, shopmen, and others injured by tools, etc.....	39
--	----

## Passengers injured—

Bruised by walking off moving train.....	1
Bruised by jumping off moving train.....	1
Fingers pinched in reclining chair.....	1

3

## Trespassers killed—

Tramps asleep on track.....	2
Tramps walking on track.....	3

5

## Trespassers injured—

Tramp asleep on track.....	1
Tramp fell off bridge.....	1
Woman fell off bridge.....	1
Walking too close to track.....	2

5

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		
		Number of Curves	Aggregate Length of Curved Line—Miles	Length of Straight Line—Miles.
National City to San Bernardino.....	129.61	292	39.10	90.51
San Bernardino to Barstow.....	81.00	154	20.30	60.70
San Bernardino to Los Angeles.....	61.91	64	10.70	51.21
Los Angeles to Los Angeles Junction.....	83.10	85	13.10	70.00
East Riverside to Orange.....	40.68	52	9.50	31.18
Perris to San Jacinto.....	19.38	4	1.90	17.48
Escondido Junction to Escondido.....	21.23	54	8.70	12.53
San Bernardino to Highland Junction, via Mentone.....	25.38	32	8.40	16.98
Ballona Junction to Santa Monica.....	17.88	24	2.80	15.08
Inglewood to Redondo Beach.....	10.81	20	3.90	6.91
Totals.....	490.98	781	118.40	372.58

## CHARACTERISTICS OF ROAD—Continued.

Working Divisions or Branches.	Profile.						
	Length of Level Line—Miles	Number of Ascending Grades	Sum of Ascents of Ascending Grades—feet	Aggregate Length of Ascending Grades—Miles	Number of Descending Grades	Sum of Descents of Descending Grades—feet	Aggregate Length of Descending Grades—Miles
National City to San Bernardino	28.01	35	2,691	76.80	17	1,631	24.80
San Bernardino to Barstow	8.50	11	2,854	29.10	30	1,824	43.40
San Bernardino to Los Angeles	3.90	12	749	17.70	12	1,585	40.31
Los Angeles to Los Angeles Junction	18.30	31	886	26.80	31	965	38.00
East Riverside to Orange	9.00	16	131	5.00	16	896	26.68
Perris to San Jacinto	2.28	7	213	12.20	6	127	4.90
Escondido Junction to Escondido	2.63	10	909	14.10	10	309	4.50
San Bernardino to Highland Junction, via Mentone	0.70	6	734	12.68	7	676	12.00
Ballona Junction to Santa Monica	5.38	5	113	3.10	6	267	9.40
Inglewood to Redondo Beach	2.71	4	147	6.10	3	52	2.00
Totals	81.41	137	9,427	203.58	138	8,332	205.99

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Iron	2	277 feet.	90 feet.	187 feet.
Wooden	10	1,872 feet.	32 feet.	492 feet.
Totals	12	2,149 feet.		
Trestles	570	57,800 feet.	7 feet.	1,725 feet.

Item.	Number.	Height Above Surface of Rail.
Overhead highway crossings:		
Bridges	3	20 ft.
Conduits	2	16 ft. 10 in.
Trestles	1	17 ft. 2 in.
Total	6	

Gauge of track, 4 feet 8½ inches; length, 490.98 miles.

## TELEGRAPH.

## A. Owned by Company Making this Report.

Miles of Line.	Miles of Wire.	Name of Operating Company.
492.50	633.70	Owned and operated jointly by this company and the Western Union Telegraph Company.

*B. Owned by Another Company, but Located on Property of Road Making this Report.*

Miles of Wire.	Name of Owner.	Name of Operating Company.
490.50	Western Union Telegraph Company.	Western Union Telegraph Company.

## CAR MILEAGE.

This company pays mileage for the use of cars to the following companies:

Armour Refrigerator Line.	Kansas City Dressed Beef Line.
Abernathy Furniture Co.	Kansas Manufacturers' Despatch.
American Refrigerator Transit Co.	Kingan Refrigerator Line.
Arms Palace Horse Car Co.	Libby, McNeil & Libby Refrigerator Line.
American Cereal Co. Despatch.	Live Poultry Transportation Co.
Blue Line.	Merchants' Despatch Transportation Co.
Burton Stock Car Co.	Michigan Car and Foundry Co.
California Fruit Transportation Co.	National Despatch Line.
California Fruit Express Co.	National Rolling Stock Co.
Consolidated Cattle Car Co.	Overland Fruit Despatch.
Canda Cattle Car Co.	Red Line.
Cudahy Refrigerator Line.	Swift Refrigerator Line.
Cleveland Provision Co.	Sante Fe Fruit and Refrigerator Line.
Continental Fruit Express.	St. Louis Refrigerator Car Co.
Dold Packing Co.	Southwestern Refrigerator Despatch Line.
Empire Line.	Street's Western Stable Car Lines.
Great Eastern Line.	Southwestern Millers' Despatch Line.
Hammond Refrigerator Line.	St. Charles Car Co.
Heinz Pickle Refrigerator Line.	Union Tank Line.
Independent Refining Co.	Union Refrigerator Transit Co.
Interstate Ventilator-Refrigerator Car Co.	Venice Transportation Co.
International Fruit Dealers' Despatch.	Pullman Palace Car Co.

STATE OF ILLINOIS, }  
County of Cook. } ss.

We, the undersigned, E. P. Ripley, President, and H. C. Whitehead, General Auditor of the Southern California Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

E. P. RIPLEY,  
President.  
H. C. WHITEHEAD,  
General Auditor.

Subscribed and sworn to before me, this 28th day of September, 1896.

A. E. BLYTH,  
Notary Public.



## ATLANTIC &amp; PACIFIC RAILROAD COMPANY.

C. W. SMITH, Receiver.

LAW DEPARTMENT, C. N. STERRY, ATTORNEY AND SOLICITOR, }  
ALBUQUERQUE, NEW MEXICO. }*To the Honorable Board of Railroad Commissioners of the State of California, San Francisco, California:*

GENTLEMEN: Pursuant to the understanding reached at a conference had between the Honorable Board of Railroad Commissioners and William C. Hazletine, the then Solicitor of the A. & P. R. R. Co., on the 10th day of February, 1887, I have the honor to submit attached hereto a report of C. W. Smith, Receiver of said railroad company, for the year ending June 30, 1886, which I have had compiled as nearly as possible in the form prescribed by your Board, from the report made by said Receiver to the Secretary of the Interior of the United States, as provided for in the Act of Congress incorporating said company.

In submitting this report I desire to call your attention to the position assumed by said company and said Receiver, which is, that said company being a Federal corporation, created by the supreme legislative authority of the nation, and being by that Act constituted a Federal agency, fully empowered to fix and determine its own rates of fares and freights, and being required to make an annual report to the Secretary of the Interior, according to a form prescribed by his department, we do not believe that we could be lawfully required or legally compelled to make any report to your Honorable Board; but being willing and anxious to aid you, so far as may be, in the performance of your duties, we take pleasure in handing you as full a report as can conveniently be compiled from the one furnished to the Secretary of the Interior, as aforesaid, hoping and believing it will give you generally such information as you may require; at the same time protesting that, in making this report, we do not do so under compulsion, but voluntarily, not intending thereby to waive any rights the Atlantic & Pacific Railroad Company, or C. W. Smith, as Receiver thereof, has or may have under its Federal charter, or otherwise, but hereby expressly reserving to it and him every right and immunity from State control, or otherwise, it may have as a national corporation, Federal agency, and interstate railroad.

Respectfully submitted.

C. N. STERRY,  
Attorney and Solicitor.

## HISTORY.

1. Name of common carrier making this report: Atlantic & Pacific Railroad Company (Western Division), C. W. Smith, Receiver.

2. Date of organization: July 27, 1866.

3. Under laws of what Government, State, or Territory organized: United States.

The property of the Atlantic & Pacific Railroad Company is in the hands of C. W. Smith, Receiver, duly appointed by the District Court of the Second Judicial District of New Mexico, the District Court of the Fourth Judicial District of Arizona, and the U. S. Circuit Court, Ninth Judicial District, Southern District of California.

## ORGANIZATION.

Correspondence regarding this report should be addressed to C. N. Sterry, Attorney and Solicitor, Albuquerque, New Mexico.

## OFFICERS.

Title.	Name.	Location of Office.
Receiver and General Manager.....	C. W. Smith .....	Albuquerque, N. M.
Agent for Receiver .....	Don A. Sweet .....	Albuquerque, N. M.
Treasurer .....	C. E. Cray .....	Albuquerque, N. M.
Attorney and Solicitor.....	C. N. Sterry .....	Albuquerque, N. M.
Auditor .....	W. E. Walsh .....	Albuquerque, N. M.
General Superintendent .....	A. G. Wells .....	Albuquerque, N. M.
Division Superintendent .....	John Denair .....	Needles, Cal.
Division Superintendent .....	C. R. Perry .....	Gallup, N. M.
Superintendent of Telegraph .....	A. Smith .....	Albuquerque, N. M.
General Freight Agent .....	Don A. Sweet .....	Albuquerque, N. M.
Assistant General Freight Agent.....	H. C. Bush .....	San Francisco.
General Passenger Agent .....	Don A. Sweet .....	Albuquerque, N. M.
Assistant General Passenger Agent .....	H. C. Bush .....	San Francisco.
General Baggage Agent .....	P. Walsh .....	Topeka.
Land Commissioner (Acting) .....	C. N. Sterry .....	Albuquerque, N. M.

## PROPERTY OPERATED.

Name.	Miles of Line.
A. & P. R. R., Western Division, Colorado River to near Needles .....	9,912
Colorado Division Southern Pacific R. R., near Needles to Mojave, Cal. ....	242,370
Total .....	252,282

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Permanent Improvements During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.
Fences .....		\$646 72	\$646 72
Grading, and bridge and culvert masonry .....		3,003 16	3,003 16
Bridges and trestles .....		6,814 50	6,814 50
Rails .....		45,308 83	45,308 83
Ties .....		816 05	816 05
Buildings, furniture, and fixtures .....	\$2,101 58	56,192 58	56,192 58
Engineering expenses .....		3,039 00	3,039 00
Telegraph line .....		559 70	559 70
Miscellaneous .....	3,338 50		
Sidings and yard extensions .....	2,205 90	17,923 95	17,923 95
Other items .....		31,085 71	31,085 71
Totals .....	\$7,645 98	\$165,390 20	\$165,390 20

## INCOME ACCOUNT.

Gross earnings from operation .....	\$882,585 82	
Less operating expenses .....	869,213 88	
Total income .....		\$13,371 94
Deductions from income:		
Rents paid for lease of road .....	\$436,266 00	
Taxes .....	39,704 16	
Permanent improvements .....	7,645 98	
Total deductions .....		483,616 14
Deficit .....		\$470,244 20

## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Passenger revenue .....	\$197,887 55
Mail .....	35,722 12
Express .....	44,725 30
Extra baggage .....	2,635 71
Total passenger earnings .....	\$280,970 68
Freight earnings .....	583,126 69
Total passenger and freight earnings .....	\$864,097 37
Other earnings from operation:	
Car mileage—balance .....	11,898 31
Rents not otherwise provided for .....	2,235 53
Other sources .....	4,354 61
Total gross earnings from operation .....	\$882,585 82

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$161,899 60
Renewals of rails .....	4,921 09
Renewals of ties .....	75,463 34
Repairs and renewals of bridges and culverts .....	22,733 38
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	141 30
Repairs and renewals of buildings and fixtures .....	9,983 45
Repairs and renewals of telegraph .....	1,072 27
Stationery and printing .....	42 89
Total .....	\$276,257 32
Maintenance of equipment:	
Superintendence .....	\$1,549 44
Repairs and renewals of locomotives .....	81,770 52
Repairs and renewals of passenger cars .....	14,082 91
Repairs and renewals of freight cars .....	47,463 80
Repairs and renewals of shop machinery and tools .....	4,008 32
Stationery and printing .....	156 04
Total .....	\$152,031 03
Conducting transportation:	
Superintendence .....	\$6,805 41
Engine and roundhouse men .....	84,960 27
Fuel for locomotives .....	67,896 06
Water supply for locomotives .....	21,898 78
Oil, tallow, waste, and other supplies for locomotives .....	5,179 51
Train service .....	56,245 49
Train supplies and expenses .....	9,773 11
Switchmen, flagmen, and watchmen .....	12,765 75
Telegraph expenses .....	13,678 77
Station service .....	17,885 39
Station supplies .....	1,781 70
Car mileage—balance .....	70,330 75
Hire of equipment .....	8,984 79
Loss and damage .....	4,034 64
Injuries to persons .....	735 00
Clearing wrecks .....	574 18
Advertising .....	2,012 15
Outside agencies .....	9,197 25
Stockyards and elevators .....	75 77
Rents for tracks, yards, and terminals .....	1,066 52
Rents of buildings and other property .....	416 17
Stationery and printing .....	1,572 04
Other expenses .....	14,982 62
Total .....	\$412,852 12
General expenses:	
Salaries of general officers .....	6,105 75
Salaries of clerks and attendants .....	9,748 28
General office expenses and supplies .....	187 31
Insurance .....	3,327 01
Law expenses .....	4,789 82
Stationery and printing (general offices) .....	587 09
Other expenses .....	3,328 15
Total .....	\$28,073 41
Recapitulation of expenses:	
Maintenance of way and structures .....	\$276,257 32
Maintenance of equipment .....	152,031 03
Conducting transportation .....	412,852 12
General expenses .....	28,073 41
Grand total .....	\$869,213 88



## RENTALS PAID.

The sum of \$436,266 was paid the Southern Pacific Company for lease of the Colorado Division of the Southern Pacific Railroad Company, and \$1,066 52 was paid the Southern California Railway Company for lease of yards and terminals at Barstow.

## EMPLOYÉES AND SALARIES.

Class.	Number.	Number of Days Worked.	Yearly Compensation.	Average Daily Compensation.
General and other officers .....	5	1,611	\$6,105 75	\$8 10
General office clerks .....	30	10,950	9,748 28	2 90
Station agents .....	5	1,825	5,160 00	2 83
Other station men .....	9	2,808	5,093 97	1 81
Enginemen .....	34	9,075	52,726 01	5 81
Firemen .....	36	9,075	31,346 03	3 45
Conductors .....	22	8,368	35,926 30	4 05
Other trainmen .....	44	15,426	45,273 73	2 93
Machinists .....	17	5,494	17,934 32	3 26
Carpenters .....	27	8,620	24,299 09	2 82
Other shopmen .....	68	21,123	51,753 50	2 45
Section foremen .....	29	11,071	25,268 42	2 28
Other trackmen .....	204	71,797	97,678 65	1 36
Switchmen, flagmen, and watchmen ..	13	4,765	11,436 21	2 40
Telegraph operators and dispatchers ..	12	4,020	13,058 78	3 25
All other employés and laborers .....	138	43,099	76,640 61	1 78
Total (including general officers)....	693	229,127	\$507,449 65	\$2 21
Less general officers .....	5	1,611	6,105 75	-----
Total (excluding general officers)....	688	227,516	\$501,343 90	\$2 19
Distribution of above:				
General administration .....	35	12,561	\$15,854 03	\$5 50
Maintenance of way and structures ..	371	125,967	199,587 68	1 58
Maintenance of equipment .....	112	35,237	93,986 91	2 67
Conducting transportation .....	175	55,362	198,021 03	3 57
Total (including general officers)....	693	229,127	\$507,449 65	\$2 21
Less general officers .....	5	1,611	6,105 75	-----
Total (excluding general officers)....	688	227,516	\$501,343 90	\$2 19

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue .....	52,909	
Number of passengers carried one mile .....	9,453,032	
Number of passengers carried one mile per mile of road ..	37,390	
Average distance carried—miles .....	179	
Total passenger revenue .....		\$197,887 55
Average amount received from each passenger .....		3 74.015
Average receipts per passenger per mile .....		02.093
Total passenger earnings .....		280,970 68
Passenger earnings per mile of road .....		1,111 34.673
Passenger earnings per train mile .....		93.187
Freight traffic:		
Number of tons carried of freight earning revenue .....	315,473	
Number of tons carried one mile .....	61,585,107	
Number of tons carried one mile per mile of road .....	243,593	
Average distance haul of one ton—miles .....	195	
Total freight revenue .....		583,126 69
Average amount received for each ton of freight .....		1 84.842
Average receipts per ton per mile .....		00.947
Total freight earnings .....		583,126 69
Freight earnings per mile of road .....		2,306 48.956
Freight earnings per train mile .....		1 52.550

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE—Continued.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger and freight:		
Passenger and freight revenue.....		\$781,014 24
Passenger and freight revenue per mile of road.....		3,089 21.066
Passenger and freight earnings.....		864,097 37
Passenger and freight earnings per mile of road.....		3,417 83.629
Gross earnings from operation.....		882,585 82
Gross earnings from operation per mile of road.....		3,490 96.519
Gross earnings from operation per train mile.....		1 29.077
Operating expenses.....		869,213 88
Operating expenses per mile of road.....		3,445 40.585
Operating expenses per train mile.....		1 27.121
Train mileage:		
Miles run by passenger trains.....	301,514	
Miles run by freight trains.....	382,253	
Total mileage trains earning revenue.....	683,767	
Miles run by switching trains.....	108,000	
Miles run by construction and other trains.....	2,560	
Grand total train mileage.....	794,327	
Mileage of loaded freight cars—north or east.....	2,650,342	
Mileage of loaded freight cars—south or west.....	2,765,241	
Mileage of empty freight cars—north or east.....	928,349	
Mileage of empty freight cars—south or west.....	733,845	
Average number of freight cars in train.....	19	
Average number of loaded cars in train.....	13	
Average number of empty cars in train.....	6	
Average number of tons of freight in train.....	91	
Average number of tons of freight in each loaded car.....	7	

## DESCRIPTION OF EQUIPMENT.

Item.	Added During Year.	Number at End of Year.	With Train Brake.	With Automatic Coupler.	Name of Automatic Coupler.
Locomotives:					
Passenger, freight, and switching.....		117	117		
Cars in passenger service:					
First-class cars.....		14	14	14	Miller
Second-class cars.....		7	7	7	Miller
Baggage, express, and postal cars.....		13	13	13	Miller
Totals.....		34	34	34	Miller
Cars in freight service:					
Box cars.....		150	150	4	Trojan
Flat cars.....		437	437		
Stock cars.....		239	190	5	Trojan
Coal cars.....		1,131	925	2	Trojan
Totals.....		1,957	1,465	11	Trojan
Cars in company's service:					
Officers' and pay cars.....		2	2	2	Banhop
Derrick cars.....		2	2		
Caboose cars.....	4	59	59		
Other road cars.....		106	100	8	Standard
Totals.....	4	169	163	10	
Total cars in service.....		2,160	1,662	55	
Total cars owned.....	4	2,160	1,662	55	

This equipment is not owned by the line in California, but is the property of the Western Division.

All rolling stock is equipped with the Westinghouse air-brake.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Total Freight Tonnage.	Per Cent.
Products of agriculture:		
Grain .....	2,606	0.83
Flour .....	2,662	0.84
Other mill products .....	2,822	0.89
Hay .....	2,289	0.73
Tobacco .....	323	0.10
Cotton .....	863	0.27
Fruit and vegetables .....	73,142	23.19
Products of animals:		
Live stock .....	6,095	1.93
Dressed meat .....	21	0.01
Other packing-house products .....	1,888	0.60
Poultry, game, and fish .....	260	0.08
Wool .....	1,144	0.36
Hides and leather .....	309	0.10
Products of mines:		
Bituminous coal .....	49,874	15.81
Coke .....	144	0.04
Ores .....	710	0.23
Stone, sand, and other like articles .....	2,795	0.89
Salt .....	580	0.19
Borax .....	10,698	3.39
Lumber, and other products of forest .....	15,901	5.04
Manufactures:		
Petroleum and other oils .....	14,462	4.58
Sugar .....	24,271	7.69
Iron, pig and bloom .....	78	0.02
Iron and steel rails .....	6,102	1.93
Other castings and machinery .....	11,971	3.79
Bar and sheet metal .....	8,439	2.68
Cement, brick, and lime .....	1,404	0.45
Agricultural implements .....	1,105	0.35
Wagons, carriages, tools, etc. ....	3,200	1.01
Wines, liquors, and beers .....	8,174	2.59
Household goods and furniture .....	6,658	2.11
Hardware and cutters .....	6,600	2.10
Merchandise .....	46,598	14.77
Miscellaneous: Other commodities not mentioned above .....	1,285	0.41
Totals .....	315,473	100.00

## MILEAGE.

## A. Mileage of Road Operated—All Tracks.

Line in Use.	Main Line.	Line Operated Under Lease.	Total Mileage Operated.	Steel Rails.
Miles of single track .....	9.912	242.37	252.282	252.282
Miles of yard track and sidings .....	20.960	-----	20.960	20.960
Total mileage operated .....	30.872	242.37	273.242	273.242

## B. Mileage of Line Operated, by States and Territories—Single Track.

State.	Main Line.	Line Operated Under Lease.	Total Mileage Operated.	Steel Rails.
California .....	9.912	242.37	252.282	252.282



*C. Mileage of Line Owned, by States and Territories—Single Track.*

State.	Main Line.	Total Mileage Owned.	Steel Rails.
California .....	9.912	9.912	9.912

## RENEWALS OF RAILS AND TIES.

New ties laid during the year: Pine, 21,143; redwood, 145,459; total, 166,602. Average price at distributing point, 43 cents. No new rails were laid.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Soft Wood —Cords.	Total Fuel Consumed —Tons	Miles Run.	Average lbs. Consumed per Mile.
Passenger .....	11,943	116	12,001	319,433	75.14
Freight .....	31,295	309	31,449½	456,124	137.90
Switching .....	628	6	631	108,000	11.70
Construction .....	162	3	163½	9,220	35.46
Totals .....	44,028	434	44,245	892,777	99.11

Average cost at distributing point, \$1 52 per ton for coal; \$1 72 per cord for wood.

## ACCIDENTS TO PERSONS.

Kind of Accident.	Trainmen Injured.	Other Employés Injured.	Passengers Injured.	Trespassers Injured.	Total Injured.
Coupling and uncoupling .....	2				2
Falling from trains and engines .....	1				1
Derailements .....	1		1		2
Other causes .....		10		1	11
Totals .....	4	10	1	1	16

Four other employés injured—hand car jumped track and threw them off.

One other person injured—walking on track and struck by engine.

One other employé injured—rail fell on hand.

One other employé injured—sprained back in lifting hand car off track.

One other employé injured—trying to board moving train.

One other employé injured—hand car jumped track and threw him off.

One other employé injured—pick run through hand.

One other employé injured—rail fell from car, striking him.

## CHARACTERISTICS OF ROAD.

Colorado River, near Needles, to Mojave: Length, 252.282 miles; number of curves, 208; aggregate length of curved line, 46.3 miles; length of straight line, 205.982 miles; length of level line, 19.3 miles; number of ascending grades, 381; sum of ascents, 5,276.1 feet; aggregate length of ascending grades, 135.4 miles; number of descending grades, 170; sum of descents, 301.5 feet; aggregate length of descending grades, 97.581 miles.

Bridges: Wooden, 627; aggregate length, 35,332 feet; minimum length, 15 feet; maximum length, 1,942 feet.

Gauge of track, 4 feet 8½ inches; length, 252.282 miles.

## TELEGRAPH OWNED BY COMPANY MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Operating Company.
252.282	433.464	Operated by this company jointly with Western Union Telegraph Company.

## CAR MILEAGE.

The company making this report pays mileage for the use of cars to the following companies:

Arms Palace Horse Car Co.	Kansas Manufacturers' Despatch.
American Refrigerator Transit Co.	Keystone Palace Horse Car Co.
Armour Refrigerator Line.	Kingan Refrigerator Line.
Abernathy Furniture Co.	Libby, McNeil & Libby Refrigerator Line.
American Brewing Co. Refrigerator Line.	Live Poultry Transportation Co.
Arctic Oil Works.	Lipton Refrigerator Line.
American Cereal Co. Despatch.	Merchants' Despatch Transportation Co.
Burton Stock Car Co.	Morris & Co. Refrigerator Line.
Bear Creek Star Line.	Moran Refrigerator Line.
Blue Line.	National Despatch.
Canda Cattle Car Co.	New England Car Co.
California Fruit Express.	National Rolling Stock Co.
California Fruit Transportation Co.	New York Despatch Refrigerator Line.
Continental Fruit Express.	Overland Fruit Despatch.
Chicago Refrigerator Car Co. •	Omaha Packing Co.
Cudahy Refrigerator Line.	Pullman Palace Car Co.
Climax Tank Line.	Peavy Grain Line Co.
Canada Southern Line.	Pabst Refrigerator Line.
Corle Oat Meal Co.	Red Line.
Cleveland Provision Co.	St. Louis Refrigerator Car Co.
Commerce Despatch Line.	Swift's Refrigerator Line.
Consolidated Cattle Car Co.	Street's Stable Car Line.
Cottolene Refrigerator Line.	St. Charles Car Co.
Dold Packing Co.	Southwestern Millers' Despatch.
Empire Line.	Samuel Cupples Woodenware Co.
Great Eastern Line.	Southwestern Refrigerator Despatch.
Hammond Refrigerator Line.	Santa Fe Refrigerator Line.
Hoffman & Son, C.	Union Tank Line Co.
Hicks Stock Car Co.	Union Refrigerator Transit Co.
Healy Refrigerator Line.	United Oil Co.
Interstate Ventilator-Refrigerator Car Line.	Venice Transportation Co.
International Fruit Dealers' Despatch.	Waverly Oil Works.
Independent Refining Co.	White Star Transportation Co.
Kansas City Dressed Beef Line.	White Line Central Transit Co.
Kansas City Refrigerator Car Line.	Washburn & Moen Car Line.

STATE OF CALIFORNIA,  
County of Los Angeles, } ss.

C. N. Sterry, Attorney and Solicitor for the Receiver of the property of the Atlantic & Pacific Railroad Company (Western Division), being duly sworn, deposes and says that the statements, tables, and answers contained in the foregoing report have been compiled and prepared under his supervision from the report of the Receiver of said company to the Honorable Secretary of the Interior of the United States, in accordance with an understanding had with the Railroad Commissioners of California on February 10, 1887, by William C. Hazletine, the then Solicitor of said company; and that to the best of his knowledge, and as he verily believes, the same contains a full and true exhibit of the condition and affairs of said company on the 30th day of June, 1896, as shown by said report to said Secretary of the Interior.

C. N. STERRY.

Subscribed and sworn to before me, this 10th day of September, 1896.

J. L. B. HAMILTON,  
Notary Public in and for the County of Los Angeles, State of California.

## SAN FRANCISCO &amp; NORTH PACIFIC RAILWAY COMPANY.

## HISTORY.

The San Francisco & North Pacific Railway Company was formed in March, 1889, by transfer from the following companies:

San Francisco & North Pacific Railroad Company.

Sonoma Valley Railroad Company.

Marin & Napa Railroad Company.

Cloverdale & Ukiah Railroad Company.

San Francisco & San Rafael Railroad Company.

The San Francisco & North Pacific Railway Company issued \$6,000,000 stock, and \$4,000,000 first mortgage 5 per cent, 30-year \$1,000 bonds, due January 1, 1919, interest payable, commencing July 1, 1889, on the 1st of January and 1st of July. The mortgage further provided for an additional issue of \$500,000 on extension, at the rate of not exceeding \$25,000 per mile of railroad in excess of the 160 miles already constructed. Provision is made for a sinking fund of \$25,000 per annum, for purchase of bonds in the market, at not exceeding 110 and interest.

The San Francisco & North Pacific Railroad Company (one of the said companies), 108.5 miles, was incorporated June 29, 1877, and formed by the consolidation of the Sonoma & Marin R. R., chartered November 13, 1874, and the Fulton & Guerneville R. R., chartered May 23, 1877. Road opened from Donahue to Santa Rosa, 23 miles, January 1, 1870; to Windsor, 9 miles, March 1, 1871; to Grants, 4 miles, April 10, 1871; to Healdsburg, 2 miles, July 1, 1871, and to Cloverdale, 18 miles, April 18, 1872. The Guerneville branch was opened May 29, 1876, and the Petaluma branch June 2, 1879. Included in the main line was a section of 9 miles, Point Tiburon to San Rafael, leased.

The Sonoma Valley Railroad (also of the said companies), 21.43 miles, was incorporated July 24, 1878; road opened August 23, 1880. The Sonoma & Santa Rosa R. R. was opened August 15, 1882. The two companies were consolidated during 1885.

San Francisco & North Pacific Railroad Company, organized June 29, 1877.

San Francisco & San Rafael Railroad Company.

Sonoma Railroad Company, organized July 24, 1878.

Marin & Napa Railroad Company.

Cloverdale & Ukiah Railroad Company.

All these companies were chartered under the Civil Code of California, and sold, assigned, and transferred to the San Francisco & North Pacific Railway Company, all their roadway, depot grounds, stations, rolling stock, and other material, on March 19, 1889.

The San Francisco & North Pacific Railroad Company was formed by the consolidation of the Sonoma & Marin Railroad Company, organized November 13, 1874; the Fulton & Guerneville Railroad Company, organized May 23, 1876, and the reorganization of the San Francisco & Humboldt Bay Railroad Company.

## ORGANIZATION.

Names of Directors: Arthur W. Foster, P. N. Lilienthal, Andrew Markham, Geo. A. Newhall, John L. Howard, J. B. Stetson, and A. Borel, all of San Francisco.

Number of stockholders at date of last election: 18.

Last meeting of stockholders for election of Directors: Fixed for third Tuesday in January; postponed to and held on February 25, 1896.

Post Office address of general and operating offices: Mutual Life Insurance Building.

Name and address of officer to whom correspondence regarding this report should be addressed: Thos. Mellersh, Comptroller, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	Arthur W. Foster .....	San Francisco.
First Vice-President .....	P. N. Lilienthal .....	San Francisco.
Secretary .....	Thos. Mellersh .....	San Francisco.
Treasurer .....	Anglo-Californian Bank .....	San Francisco.
Attorney, or General Counsel .....	Jesse W. Lilienthal .....	San Francisco.
Comptroller .....	Thos. Mellersh .....	San Francisco.
General Manager .....	H. C. Whiting .....	San Francisco.
Chief Engineer .....	F. K. Zook .....	San Rafael.
Superintendent .....	W. G. Corbaley .....	San Rafael.
General Freight Agent .....	R. X. Ryan .....	San Francisco.
Assistant General Freight Agent .....	W. J. McMullin .....	San Francisco.
General Passenger Agent .....	R. X. Ryan .....	San Francisco.
Assistant General Passenger Agent .....	W. J. McMullin .....	San Francisco.
General Ticket Agent .....	R. X. Ryan .....	San Francisco.
Assistant General Ticket Agent .....	W. J. McMullin .....	San Francisco.
General Baggage Agent .....	R. X. Ryan .....	San Francisco.



## PROPERTY OPERATED.

Name of Road.	Miles.
San Francisco & North Pacific Railway Company—	
Tiburon to Ukiah .....	106.00
Donahue to Junction with main line .....	5.56
Fulton to Meekers .....	20.88
Santa Rosa to Sebastopol .....	6.25
Ignacio to Glen Ellen .....	26.63
Total .....	165.32

## CAPITAL STOCK.

The total par value of authorized capital stock is \$6,000,000, divided into 60,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$6,000,000.

Dividends (1 per cent) to the amount of \$60,000 were declared during the year.

Total number of shares issued and outstanding, 60,000; cash realized, \$6,000,000. This stock was issued by the San Francisco & North Pacific Railway Company in payment for the several properties acquired March 19, 1889, and reorganized.

## FUNDED DEBT.

On January 1, 1889, first mortgage bonds were authorized to be issued to the amount of \$4,500,000; of this amount, \$4,290,000 was issued, and \$4,111,000 is outstanding. The cash realized cannot be correctly stated. These bonds mature January 1, 1919, and bear 5 per cent interest, payable semi-annually, in January and July of each year. Amount of interest accrued during the year was \$205,550, all of which was paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$4,290,000 00	\$4,136,000 00

Interest accrued during year, \$205,550; interest paid during year, \$205,550.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Cash .....	Audited vouchers and accounts .....
Due from agents .....	Wages and salaries .....
Due from solvent companies and individuals .....	
Total cash and current assets .....	Total .....
Balance—current liabilities .....	
Total .....	

Materials and supplies on hand, \$41,082 85.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount Per Mile of Line.
Capital stock .....	\$6,000,000 00	\$6,000,000 00	165.32 }	\$36,293 25
Bonds .....	4,111,000 00	4,111,000 00		24,866 92
Totals .....	\$10,111,000 00	\$10,111,000 00	165.32	\$61,160 17

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.	Miles.	Amount Per Mile of Line.
S. F. & N. P. Ry.	\$6,000,000	\$4,111,000	\$87,771 54	\$10,198,771 54	165.32	\$61,697 14

COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Total Cost From March 19, 1889, to June 30, 1896.
Construction :	
Right of way, and other real estate.....	\$24,361 45
Fences.....	4,590 97
Grading, and bridge and culvert masonry.....	25,042 58
Bridges and trestles.....	31,982 59
Rails.....	72,291 25
Ties.....	9,057 81
Other superstructure.....	1,860 55
Buildings, furniture, and fixtures.....	36,010 84
Shop machinery and tools.....	2,627 19
Engineering expenses.....	4,838 05
Interest during construction.....	1,905 30
Discount on securities sold for construction.....	19,500 00
Telegraph line.....	2,008 75
Wharfing, etc.....	8,140 72
Sidings and yard extensions.....	14,555 08
Terminal facilities and elevators.....	163 98
Purchase of constructed road.....	24,548 06
Other items.....	109,153 82
Total construction.....	\$392,638 99
Equipment:	
Passenger cars.....	\$23,704 35
Baggage, express, and postal cars.....	2,061 10
Combination cars.....	2,702 07
Freight cars.....	15,672 46
Other cars of all classes.....	317 34
Total equipment.....	\$44,457 32
Cost of all property on March 19, 1889, not segregated.....	10,000,000 00
Total cost construction, equipment, etc.....	\$10,437,096 31

Cost per mile (165.32 miles), \$62,132 69.

INCOME ACCOUNT.

Gross earnings from operation.....	\$790,957 73	
Less operating expenses.....	520,878 03	
Total income.....		\$270,079 70
Deductions from income:		
Interest on funded debt accrued.....	\$205,550 00	
Taxes.....	37,500 00	
Total deductions from income.....		243,050 00
Net income.....		\$27,029 70
Dividends, $\frac{1}{2}$ of 1 per cent, common stock.....	\$30,000 00	
Dividends, $\frac{1}{2}$ of 1 per cent, preferred stock.....	30,000 00	
Other payments from net income—sinking fund.....	25,000 00	
		85,000 00
Deficit from operations of year ending June 30, 1896.....		\$57,970 30
Surplus on June 30, 1895.....		222,268 00
Surplus on June 30, 1896.....		\$164,297 70

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Actual Earnings.
Conductors .....	\$16,222 35	
Passenger revenue .....	357,056 38	
Total passenger revenue .....		\$373,278 73
Mail .....		17,698 11
Express .....		16,452 16
Extra baggage and storage .....		1,472 57
Other items .....		1,800 00
Total passenger earnings .....		\$410,701 57
Total freight earnings .....		367,256 58
Total passenger and freight earnings .....		\$777,958 15
Other earnings from operation:		
Rents not otherwise provided for .....	\$12,888 61	
Other sources .....	110 97	
Total other earnings .....		12,999 58
Total gross earnings from operation .....		\$790,957 73

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$51,893 47
Renewals of rails .....	16,315 57
Renewals of ties .....	9,833 91
Repairs and renewals of bridges and culverts .....	18,047 41
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	4,054 26
Repairs and renewals of buildings and fixtures .....	12,701 38
Repairs and renewals of docks and wharves .....	5,920 39
Repairs and renewals of telegraph .....	34 29
Other expenses .....	16,279 82
Total .....	\$135,080 50
Maintenance of equipment:	
Superintendence .....	\$5,165 57
Repairs and renewals of locomotives .....	14,451 66
Repairs and renewals of passenger cars .....	16,466 30
Repairs and renewals of freight cars .....	13,848 50
Repairs and renewals of marine equipment .....	3,466 91
Repairs and renewals of shop machinery and tools .....	3,262 64
Other expenses .....	3,387 62
Total .....	\$60,049 20
Conducting transportation:	
Superintendence .....	\$1,731 78
Engine and roundhouse men .....	23,388 97
Fuel for locomotives .....	55,303 04
Water supply for locomotives .....	2,260 77
Oil, tallow, and waste for locomotives .....	1,074 33
Train service .....	24,478 60
Train supplies and expenses .....	6,291 41
Switchmen, flagmen, and watchmen .....	1,896 06
Telegraph expenses .....	1,467 45
Station service .....	36,194 95
Station supplies .....	3,294 34
Switching charges and car mileage—balance .....	5,545 90
Loss and damage .....	2,675 00
Injuries to persons .....	5,479 81
Clearing wrecks .....	589 92
Operating marine equipment .....	60,908 17
Advertising .....	16,991 34
Stationery and printing .....	21,315 58
Total .....	\$270,187 42



## OPERATING EXPENSES—Continued.

Item.	Amount.
General expenses:	
Salaries of general officers.....	\$20,400 00
Salaries of clerks and attendants.....	13,032 85
General office expenses and supplies.....	4,202 78
Insurance.....	7,200 00
Law expenses.....	7,285 09
Stationery and printing (general offices).....	1,027 39
Other expenses.....	2,412 80
Total.....	\$55,560 91
Recapitulation of expenses:	
Maintenance of way and structures.....	\$135,080 50
Maintenance of equipment.....	60,049 20
Conducting transportation.....	270,187 42
General expenses.....	55,560 91
Grand total.....	\$520,878 03
Percentage of operating expenses to earnings.....	65.85

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Decrease.
\$10,437,096 31	Cost of road and equipment .....	\$10,437,096 31	
81,523 78	Cash and current assets .....	38,200 98	\$43,322 80
42,452 16	Materials and supplies.....	41,082 95	1,369 21
25,824 86	Sinking fund .....	25,689 00	135 86
\$10,586,897 11	Totals .....	\$10,542,069 24	\$44,827 87

June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$6,000,000 00	Capital stock .....	\$6,000,000 00		
4,136,000 00	Funded debt .....	4,111,000 00		\$25,000 00
74,629 11	Current liabilities .....	87,771 54	\$13,142 43	
154,000 00	Sinking fund paid on first mort- gage bonds.....	179,000 00	25,000 00	
222,268 00	Profit and loss .....	164,297 70		57,970 30
\$10,586,897 11	Totals .....	\$10,542,069 24		\$44,827 87

## CONTRACTS, AGREEMENTS, ETC.

1. Express with Wells, Fargo & Co.
2. Mail with U. S. Government.
4. Morton Bros.
5. Southern Pacific Co.
7. Western Union Telegraph Co.
9. News privilege.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount Per Mile of Line.
First mortgage, \$4,111,000; 4,111 bonds of \$1,000 each, payable January 1, 1919; interest payable semi-annually, at 5% -----	Entire road ---	165.32	\$24,867

Equipment mortgaged includes all the franchises, rights and lines of roads, side tracks, rolling stock, land and water terminals, stations, shops, steamers, and all other property.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Days Worked.	Yearly Compensation.	Average Daily Compensation.
General officers -----	4	1,460	\$17,400 00	\$11 92.365
Other officers -----	2	730	6,000 00	8 22
General office clerks -----	15	5,475	12,612 85	2 30
Station agents -----	32	11,680	27,745 30	2 37
Other station men -----	15	5,475	8,898 35	1 63
Enginemen -----	12	4,380	14,836 15	3 39
Firemen -----	12	4,380	8,492 40	1 94
Conductors -----	11	4,015	11,709 50	2 91
Other trainmen -----	14	5,110	11,099 80	2 17
Machinists -----	20	6,200	13,267 95	2 14.310
Carpenters -----	38	11,780	27,501 95	2 33
Other shopmen -----	25	7,750	18,786 10	2 42
Section foremen -----	26	8,060	19,440 00	2 41
Other trackmen -----	104	32,240	54,308 75	1 68
Switchmen, flagmen, and watchmen -----	2	730	1,390 80	1 90.365
Telegraph operators and dispatchers -----	1	365	720 00	1 97
Employés—account floating equipment -----	29	10,585	27,564 25	2 60
All other employés and laborers -----	19	6,935	12,102 05	1 75
Total (including general officers) -----	381	127,350	\$293,876 20	\$2 31
Less general officers -----	4	1,460	17,400 00	11 92
Total (excluding general officers) -----	377	125,890	\$276,476 20	\$2 12
Distribution of above:				
General administration -----	20	7,335	33,012 85	\$4 50.365
Maintenance of way and structures -----	153	47,555	92,638 60	1 95.310
Maintenance of equipment -----	67	20,845	46,797 15	2 25.310
Conducting transportation -----	141	51,615	121,427 60	2 35.365
Total (including general officers) -----	381	127,350	293,876 20	\$2 31
Less general officers -----	4	1,460	17,400 00	11 92
Total (excluding general officers) -----	377	125,890	276,476 20	\$2 12

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	894,502	
Number of passengers carried one mile .....	18,379,425	
Number of passengers carried one mile per mile of road .....	111,174	
Average distance carried—miles .....	20.55	
Total passenger revenue .....		\$373,278 73
Average amount received from each passenger .....		41.730
Average receipts per passenger per mile .....		02.030
Total passenger earnings .....		410,701 57
Passenger earnings per mile of road .....		2,484 28
Passenger earnings per train mile .....		1 54.442
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	180,583	
Number of tons carried one mile .....	8,167,879	
Number of tons carried one mile per mile of road .....	49,406	
Average distance haul of one ton—miles .....	45.23	
Total freight revenue .....		367,256 58
Average amount received for each ton of freight .....		2 03.372
Average receipts per ton per mile .....		04.496
Total freight earnings .....		367,256 58
Freight earnings per mile of road .....		2,221 49
Freight earnings per train mile .....		3 13.645
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		740,535 31
Passenger and freight revenue per mile of road .....		4,479 40
Passenger and freight earnings .....		777,958 15
Passenger and freight earnings per mile of road .....		4,705 77
Gross earnings from operation .....		790,957 73
Gross earnings from operation per mile of road .....		4,784 40
Gross earnings from operation per train mile .....		2 06.506
Operating expenses .....		520,873 03
Operating expenses per mile of road .....		3,150 73
Operating expenses per train mile .....		1 35.993
Income from operation .....		270,079 70
Income from operation per mile of road .....		1,633 67
<b>Train mileage:</b>		
Miles run by passenger trains .....	254,472	
Miles run by freight trains .....	82,730	
Miles run by mixed trains .....	45,817	
Total mileage trains earning revenue .....	383,019	
Miles run by switching trains .....	55,532	
Miles run by construction and other trains .....	6,785	
Grand total train mileage .....	445,336	
Mileage of loaded freight cars—north .....	517,990	
Mileage of loaded freight cars—south .....	631,390	
Mileage of empty freight cars—north .....	268,850	
Mileage of empty freight cars—south .....	96,931	
Average number of freight cars in train .....	*18	
Average number of loaded cars in train .....	*13	
Average number of empty cars in train .....	*5	
Average number of tons of freight in train .....	*75	
Average number of tons of freight in each loaded car .....	*6	

\* Estimated.



## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road— Tons.	Per Cent.
Products of agriculture:		
Grain .....	8,599	5.59
Flour .....	2,658	1.73
Other mill products .....	4,874	3.17
Hay .....	3,915	2.55
Other .....	357	.23
Hops .....	1,711	1.12
Fruit and vegetables .....	8,429	5.48
Canned fruits .....	3,213	2.09
Dried fruits .....	3,324	2.16
Products of animals:		
Live stock .....	5,235	3.40
Dressed meats .....	945	.62
Other packing-house products .....	7,327	4.77
Poultry, game, and fish .....	538	.35
Wool .....	567	.37
Hides and leather .....	458	.29
Products of mines:		
Coke and coal .....	2,952	1.93
Basalt blocks .....	5,116	3.32
Stone, sand, and other like articles .....	990	.64
Other .....	1,600	1.04
Products of forest:		
Lumber .....	11,170	7.27
Charcoal .....	2,375	1.54
Wood and other .....	24,915	16.21
Manufactures:		
Petroleum and other oils .....	1,392	.91
Castings and machinery .....	713	.46
Cement, brick, and lime .....	5,108	3.32
Agricultural implements .....	214	.14
Wagons, carriages, tools, etc. ....	498	.32
Wines, liquors, and beers .....	26,648	17.34
Household goods and furniture .....	1,912	1.24
Other .....	7,561	4.92
Merchandise .....	4,546	2.96
Miscellaneous: Other commodities not mentioned above .....	3,885	2.52
Total tonnage .....	153,745	100.00

## DESCRIPTION OF EQUIPMENT.

Item.	Added During Year.	Number at End of Year.	With Train Brake.
Locomotives:			
Passenger .....		6	6
Freight .....		9	9
Switching .....		2	2
Total locomotives .....		17	17
Cars in passenger service:			
First-class cars .....		34	
Second-class cars .....		3	
Combination cars .....		4	
Special cars .....		1	
Baggage, express, and postal cars .....		5	
Other cars in passenger service .....		7	
Total .....		54	
Cars in freight service:			
Box cars .....	4	134	
Flat cars .....	5	265	
Stock cars .....		13	
Totals .....	9	412	

## DESCRIPTION OF EQUIPMENT—Continued.

Item.	Added During Year.	Number at End of Year.	With Train Brake.
Cars in company's service:			
Gravel cars .....		13	
Caboose cars .....		2	
Other road cars .....	1	74	
Totals .....	1	89	
Grand totals .....	10	555	

Locomotives are equipped with the Westinghouse air-brake; passenger cars with the Westinghouse air-brake and Miller automatic coupler; freight cars with hand brakes, and cars in the company's service with ordinary train brakes.

## MILEAGE OF ROAD OPERATED.

Miles of single track, main line, 106; branches and spurs, 59.32. Total mileage operated, 165.32. Iron rails, 45.23 miles; steel rails, 120.04 miles.

All within the State of California, and all owned by this company.

## RENEWALS OF RAILS AND TIES.

New Rails Laid During Year.	Tons.	Weight per Yard.	Average Price per Ton at Distributing Point.
Iron:			
Main line .....	148	56 lbs.	About \$20
Siding .....	8		
Total iron .....	156		
Steel:			
Main line .....	545	56 lbs.	About \$30
Sidings .....	14		
Total steel .....	559		

New Ties Laid During Year.	Number.
Redwood:	
Main line .....	14,129
Sidings .....	1,372
Total .....	15,501

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Soft Wood—Cords.	Fuel Consumed—Tons.	Miles Run.	Average Pounds Consumed per Mile.
Passenger .....	1,447	5,475	4,185	57%—254,472	32.89
Freight .....	737	2,786	2,130	29%—128,547	33.14
Switching .....	305	1,153	881	12%—55,532	31.73
Construction .....	50	192	146	2%—6,785	43.03
Totals .....	2,539	9,606	7,342	445,336	32.74

As engines are not classified and perform all kinds of service, division above is made on mileage basis, simply to try to meet your requirements.

## ACCIDENTS TO PERSONS.

Kind of Accident.	Trainmen and Employés Injured.	Passengers Injured.	Tres- passers Killed.
Train accidents .....		2	
"Other causes" .....	5	1	1
Totals .....	5	3	1

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		
		Number of Curves	Aggregate Length of Curved line —Miles .....	Length of Straight Line—Miles .....
Main line—Tiburon to Ukiah .....	106.00	188	25.34	80.66
Branches—Donahue to junction with main line .....	5.56	5	.84	4.72
Fulton to Guerneville and Bohemia .....	20.88	84	8.76	9.78
Santa Rosa to Sebastopol .....	6.25	6	.92	5.33
Ignacio to Glen Ellen .....	26.63	46	5.21	21.42
Total .....	165.32			

Main Line and Branches.	Profile.						
	Length of Level Line—Miles .....	Number of As- cending Grades..	Sum of Ascents of Ascending Grades—Feet ....	Aggregate Length of Ascending Grades—Miles ...	Number of De- scending Grades.	Sum of Descents of Descending Grades—Feet ...	Aggregate Length of Descending Grades—Miles...
Main line—Tiburon to Ukiah .....	29.76	44	1,176.3	48.89	35	572.3	27.35
Branches—Donahue to junc- tion with main line .....	2.44	7	20.5	1.48	5	19.5	1.64
Fulton to Guerneville and Bohemia .....	8.31	13	92.1	3.47	16	159.0	6.77
Santa Rosa to Sebastopol ....	1.36	1	3.0	.15	11	90.0	4.76
Ignacio to Glen Ellen .....	11.55	15	292.6	11.31	14	81.6	3.74



## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Steel .....	2	279 ft. 2 in.	51 ft. 8 in.	227 ft. 4 in.
Wooden .....	7	674 ft.	32 ft.	168 ft.
Combination .....	3	989 ft.	185 ft.	400 ft.
Totals .....	12	1,942 ft. 2 in.		
Trestles .....	457	38,087 ft.	5 ft. 6 in.	27,228 ft.
Tunnels .....	9	8,985 ft.	248 ft.	1,851 ft.

Item.	Number.	Height Above Surface of Rail.
Overhead highway crossings:		
Trestles .....	2	18 ft.
Tunnels .....	9	16 ft. 8 in.

Gauge of track, 4 feet 8½ inches; length, 165.32 miles.

TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
106	212	Western Union Telegraph Co.	S. F. & N. P. Ry.

## CAR MILEAGE.

No private cars are used or make any mileage on this road.

STATE OF CALIFORNIA, }  
County of San Francisco. } ss.

We, the undersigned, Arthur W. Foster, President, and Thomas Mellersh, Comptroller, of the San Francisco & North Pacific Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

A. W. FOSTER,  
President.  
THOS. MELLERSH,  
Comptroller.

Subscribed and sworn to before me, this 8th day of August, 1896.

E. H. THARP,  
Notary Public in and for the City and County of San Francisco, State of California.

## CARSON &amp; COLORADO RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: Carson & Colorado Railway Company.
2. Date of organization: February 27, 1892.
3. Under laws of what Government, State, or Territory organized: Laws of State of California.
4. Name of constituent companies: Carson & Colorado Railroad Company, incorporated in Nevada, May 10, 1880. Carson & Colorado Railroad Company (second division), incorporated in Nevada, November 3, 1881. Carson & Colorado Railroad Company (Third Division), incorporated in California, November 21, 1881.
5. Date of consolidation: August 2, 1892. Authority: The unanimous vote of the stockholders at a meeting held for the purpose.
6. Name of original corporation: Carson & Colorado Railroad Company. Laws under which organized: Statutes of States of Nevada and California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
D. O. Mills .....	New York City.
George Whittell .....	San Francisco.
James M. Allen .....	San Francisco.
W. T. Wood .....	San Francisco.
S. Prentiss Smith .....	San Francisco.
J. W. C. Maxwell .....	San Francisco.
H. H. Taylor .....	San Francisco.
H. M. Yerington .....	Carson, Nev.
D. A. Bender .....	Carson, Nev.

Date of expiration of terms of Directors: When successor is elected and qualified.

Total number of stockholders at date of last election: 16.

Last meeting of stockholders for election of Directors: August 2, 1892.

Post Office address of general office: San Francisco.

Post Office address of operating office: Carson, Nev.

Name and address of officer to whom correspondence regarding this report should be addressed: D. A. Bender, Secretary, Carson, Nev.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board .....	The President .....	
President .....	H. M. Yerington .....	Carson, Nev.
Vice-President .....	George Whittell .....	San Francisco.
Secretary .....	D. A. Bender .....	Carson, Nev.
Treasurer .....	S. Prentiss Smith .....	San Francisco.
Attorney, or General Counsel .....	W. S. Wood .....	San Francisco.
Auditor and Assistant Secretary .....	E. B. Yerington .....	Carson, Nev.
Chief Engineer and Assistant Supt. ....	Robt. J. Laws .....	Hawthorne, Nev.
General Superintendent .....	H. M. Yerington .....	Carson, Nev.
Superintendent of Telegraph .....	A. M. Ardery .....	Carson, Nev.
General Freight Agent .....	D. A. Bender .....	Carson, Nev.
General Passenger Agent .....	D. A. Bender .....	Carson, Nev.
General Baggage Agent .....	D. A. Bender .....	Carson, Nev.

## PROPERTY OPERATED.

Name.	Terminals.	Miles.
Carson & Colorado Railway .....	Mound House, Nev., to Keeler, Cal. ....	293.00
	Junction, Nev., to Candelaria, Nev. ....	7.00
	Hawthorne, Nev., to Cottonwood, Nev. ....	7.25
Total .....		307.25

## CAPITAL STOCK.

The total par value of authorized capital stock is \$6,300,000, divided into 63,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$4,380,000. No dividends were declared during the year.

Manner of payment for capital stock: Number of shares issued for reorganization, 43,800; total cash realized, \$4,380,000. Issued according to agreement between stockholders and the corporation in exchange for a like number of shares issued and outstanding of the Carson & Colorado Railroad Company; Carson & Colorado Railroad Company, second division; Carson & Colorado Railroad Company, third division.

## FUNDED DEBT.

In 1892, the company authorized first mortgage bonds to the amount of \$3,500,000 to be issued, to run fifty years. The amount issued and now outstanding is \$2,000,000, upon which full value was realized. The bonds bear 4 per cent interest, payable in January and July. The amount of interest accruing during the year was \$80,000, but none was paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$2,000,000 00	\$2,000,000 00

Interest accrued during year, \$80,000; interest paid during year, nothing.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash .....	\$38,137 81	Audited vouchers and accounts—wood account .....	\$393 04
Due from agents .....	3,980 42	Matured interest coupons unpaid, although not entered on company's books .....	200,000 00
Net traffic balances due from other companies .....	383 50	Miscellaneous, profit and loss .....	34,711 04
Other cash assets .....	4,320 38		
Total cash and current assets .....	\$46,822 11	Total .....	\$235,104 08
Balance—current liabilities .....	188,281 97		
Total .....	\$235,104 08		

Materials and supplies on hand, \$9,583 92.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Miles.	Amount per Mile of Line.
Capital stock .....	\$4,380,000 00	307.25	\$14,255 00
Bonds .....	2,000,000 00		6,509 00
Current liabilities .....	235,104 08		765 00
Totals .....	\$6,615,104 08	307.25	\$21,529 00

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

We are unable to furnish in detail the information called for, as the company purchased the railroad equipment, and all other property, of the following companies, viz.: Carson & Colorado Railroad Company, Carson & Colorado Railroad Company (second division), Carson & Colorado Railroad Company (third division), the consideration being 43,800 shares of its capital stock (\$4,380,000), and \$2,000,000 of its first mortgage bonds, which amount, viz.: \$6,380,000, appears on its books as representing the total cost of the property. Cost per mile, \$20,764 85.



## INCOME ACCOUNT.

Gross earnings from operation .....	\$149,965 41	
Less operating expenses .....	108,248 27	
Income from operation .....		\$41,717 14
Deductions from income:		
Interest on funded debt accrued .....	\$80,000 00	
Taxes .....	20,415 19	
Total deductions from income .....		100,415 19
Deficit .....		\$58,698 05
Deficit from operations of year ending June 30, 1896 .....		\$58,698 05
Deficit on June 30, 1895 .....		50,134 76
Deficit on June 30, 1896 .....		58,698 05

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Actual Earnings.
Passenger revenue .....	\$32,618 01	
Mail .....	12,824 28	
Express .....	2,515 53	
Baggage and storage .....	208 96	
Total passenger earnings .....		\$48,166 78
Total freight earnings .....		101,623 85
Total passenger and freight earnings .....		\$149,790 63
Other earnings from operation .....		174 78
Total gross earnings from operation .....		\$149,965 41

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway and renewals of rails and ties .....	\$23,215 76
Repairs and renewals of bridges, culverts, fences, road crossings, signs, and cattle guards .....	1,686 79
Total .....	\$24,902 55
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$7,936 07
Repairs and renewals of passenger, freight, and work cars .....	5,900 27
Total .....	\$13,836 34
Conducting transportation:	
Superintendence, engine and roundhouse men, fuel for locomotives, water supply for locomotives, oil, tallow, and waste, and other supplies for locomotives .....	\$34,518 10
Train service, train supplies and expenses, switchmen, flagmen, and watchmen .....	8,603 29
Station service .....	24,638 01
Loss and damage .....	311 23
Injuries to persons .....	30 50
Total .....	\$68,101 13
General expenses:	
Stationery and printing (general offices) .....	\$605 30
Other expenses: Water service, \$116 30; miscellaneous, \$686 65 .....	802 95
Total .....	\$1,408 25
Recapitulation of expenses:	
Maintenance of way and structures .....	\$24,902 55
Maintenance of equipment .....	13,836 34
Conducting transportation .....	68,101 13
General expenses .....	1,408 25
Grand total .....	\$108,248 27
Percentage of operating expenses to earnings .....	70.00

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$6,380,000 00	Cost of road .....	\$6,380,000 00		
25,474 24	Cash and current assets .....	46,822 11	\$21,347 87	
10,671 34	Materials and supplies .....	9,583 92		\$1,087 42
50,134 76	Profit and loss .....	58,698 05	8,563 29	
\$6,466,280 34	Totals .....	\$6,495,104 08	\$28,823 74	
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	
\$4,380,000 00	Capital stock .....	\$4,380,000 00		
2,000,000 00	Funded debt .....	2,000,000 00		
166,280 34	Current liabilities .....	235,104 08		\$68,823 74
50,134 76	Profit and loss .....	58,698 05		8,563 29
\$6,596,415 10	Totals .....	\$6,673,802 13		\$77,387 03

## CONTRACTS, AGREEMENTS, ETC.

*Express.*—This company has an agreement with Wells, Fargo & Co.'s Express, covering the transportation of express matter, messengers, etc.

*Mails.*—The company has a contract with Post Office Department, United States Government, for daily mail service between Mound House, Nev., and Keeler, Inyo Co., Cal., at the rate of \$64 98 per mile, per annum; from which said Post Office Department deduct 50% thereof for failure to provide service three times per week over that portion of the company's road over which mail service is performed but three times per week.

*Other Railroads.*—No contracts or agreements, except such as are embraced in joint freight and passenger tariffs, as agreed on.

*Telegraph.*—The telegraph line used by this company was built by the Western Union Telegraph Company under contract, both companies using the line under conditions provided for by said contract, which bears date October 1, 1880, and continues for twenty years and thereafter until one year's notice of expiration is given. In addition to allowing the railroad company the use of said line for the transaction of its business, said telegraph company furnishes the company with free telegraphing over its lines throughout the United States in amount not exceeding \$1,800 per annum.

This company uses no sleeping, parlor, or dining-cars, and has no contracts with other freight or transportation companies, steamboat or steamship companies, or telephone companies.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount per Mile of Line.
First mortgage .....	Mound House to Keeler-- Branches .....	293.00 14.25	\$6,509 33

Also, all equipment and all income are mortgaged.

## EMPLOYÉS AND SALARIES.

Statistics called for are not kept.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	8,161 $\frac{1}{4}$	
Number of passengers carried one mile .....	528,273	
Number of passengers carried one mile per mile of road ..	1,761	
Average distance carried—miles .....	64.72	
Total passenger revenue .....		\$32,618 01
Average amount received from each passenger .....		3 99
Average receipts per passenger per mile .....		06.17
Total passenger earnings .....		48,166 78
Passenger earnings per mile of road (in operation, 300 miles)		160 55
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	17,725	
Number of tons carried one mile .....	2,683,224	
Number of tons carried one mile per mile of road .....	8,944	
Average distance haul of one ton—miles .....	151	
Total freight revenue .....		101,623 85
Average amount received for each ton of freight .....		5 73.33
Average receipts per ton per mile .....		03.75
Total freight earnings .....		101,623 85
Freight earnings per mile of road (estimate on 300 miles in operation) .....		338 75
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		134,241 86
Passenger and freight revenue per mile of road .....		447 47
Passenger and freight earnings .....		149,790 63
Passenger and freight earnings per mile of road .....		499 30
Gross earnings from operation .....		149,965 41
Gross earnings from operation per mile of road .....		499 99
Gross earnings from operation per train mile .....		1 03
Operating expenses .....		108,248 27
Operating expenses per mile of road .....		360 83
Operating expenses per train mile .....		75
Income from operation .....		41,717 14
Income from operation per mile of road .....		139 06
<b>Train mileage:</b>		
Miles run by freight and other trains .....	5,986	
Miles run by mixed trains .....	138,309	
Total mileage trains earning revenue .....	144,295	

Number of miles in operation, 300; number of miles over which no freight outside of railroad hauled, 7.25.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.	Received from Connecting Roads— Tons.	Total Freight Tonnage.	Per Cent.
<b>Products of agriculture:</b>				
Grain .....	316	237	553	3.12
Flour .....	59	175 $\frac{1}{2}$	234 $\frac{1}{2}$	1.32
Hay .....	598 $\frac{1}{2}$	75	673 $\frac{1}{2}$	3.80
Potatoes .....	1,359 $\frac{1}{4}$		1,359 $\frac{1}{4}$	7.79
Honey .....	80 $\frac{1}{2}$		80 $\frac{1}{2}$	.45
<b>Products of animals:</b>				
Live stock .....	1,710	77 $\frac{1}{2}$	1,787 $\frac{1}{2}$	10.08
Wool .....	211 $\frac{1}{4}$		211 $\frac{1}{4}$	1.18
<b>Products of mines:</b>				
Borax .....	527		527	2.90
Bituminous coal .....		42 $\frac{1}{2}$	42 $\frac{1}{2}$	.23
Soda .....	2,208		2,208	12.41
Ores .....	3,816		3,816	21.52
Stone, sand, and other like articles .....	125		125	.70
Salt .....	198		198	1.11



## FREIGHT TRAFFIC MOVEMENT—Continued.

Commodity.	Originating on this Road—Tons.	Received from Connecting Roads— Tons.	Total Freight Tonnage.	Per Cent.
Products of forest:				
Lumber.....		1,020	1,020	5.75
Lath, etc.....		195½	195½	1.10
Wood.....	553		553	3.12
Manufactures:				
Castings and machinery.....		205	205	1.15
Powder.....		52½	52½	.29
Merchandise.....	1,004	2,879	3,883	21.90
Total tonnage.....	12,765½	4,959½	17,725	

Petroleum and other oils, sugar, naval stores, pig and bloom iron, cement, brick, lime, agricultural implements, wagons, carriages, tools, wines, liquors, beers, household goods, and furniture returned as "merchandise."

## DESCRIPTION OF EQUIPMENT.

Item.	Total Number at End of Year.
Locomotives: Passenger and freight.....	8
Cars in passenger service:	
First-class cars.....	3
Combination cars.....	1
Baggage, express, and postal cars.....	4
Total.....	8
Cars in freight service:	
Box and stock cars.....	54
Flat cars.....	94
Ore cars.....	22
Total.....	170
Cars in company's service:	
Officers' and pay cars.....	2
Hand cars.....	18
Total.....	20
Total cars owned.....	198

## MILEAGE.

## A. Mileage of Road Operated—All Tracks.

Line in Use.	Main Line.	Branches and Spurs.	Total Mileage Operated.	Steel Rails.
Miles of single track.....	293.00	14.25	307.25	All.
Miles of yard track and sidings.....	21.66		21.66	
Total mileage operated.....	314.66	14.25		

## B. Mileage of Line Operated, by States and Territories—Single Track.

State.	Main Line.	Branches and Spurs.	Total Mileage Operated.
Nevada.....	185	14.25	199.25
California.....	108		108.00
Total mileage operated.....	293	14.25	307.25

## NEW TIES LAID DURING YEAR.

Kind.	Number.	Average Price at Distributing Point.
Redwood .....	1,877	\$0 50
Pine .....	3,167	38
Totals .....	5,044	\$0 44

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

The locomotives, on mixed trains, in running 144,295 miles, burned 3,229 cords of nut pine wood, equal to 1,442.95 tons of fuel.

## CHARACTERISTICS OF ROAD.

Mound House, Nev., to Keeler, Cal.: Length, 293 miles; number of curves, 576; aggregate length of curved line, 51.80 miles; length of straight line, 242.20 miles; length of level line, 50.80 miles; number of ascending grades, 189; sum of ascents, 3,312.68 feet; aggregate length of ascending grades, 68 miles; number of descending grades, 113; sum of descents, 4,552.38 feet; aggregate length of descending grades, 176 miles.

Junction, Nev., to Candelaria, Nev.: Length, 7 miles; number of curves, 50; aggregate length of curved line, 3.40 miles; length of straight line, 3.60 miles; number of ascending grades, 1; sum of ascents, 511.24 feet; aggregate length of ascending grades, 4.54 miles; number of descending grades, 1; sum of descents, 178.64 feet; aggregate length of descending grades, 1.96 miles.

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Wooden and combination...	3	601 ft. 10 in.	196 ft. 6 in.	210 feet.
Trestles .....	5	1,198 ft.	195 ft.	315 feet.
Tunnels .....	1	238 ft.	238 ft.	238 feet.

Gauge of track, 3 feet; length, 307.25 miles.

## TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
300	300	Western Union Telegraph Co.	Operated jointly by owner and this company.

STATE OF NEVADA, }  
County of Ormsby. } ss.

We, the undersigned, D. A. Bender, Acting Superintendent, and E. B. Yerington, Assistant Secretary and Auditor, of the Carson & Colorado Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

D. A. BENDER,  
Acting Superintendent.  
E. B. YERINGTON,  
Assistant Secretary and Auditor.

Subscribed and sworn to before me, this 1st day of September, 1896.

FRANK E. MURPHY,  
Notary Public, Ormsby County, Nevada.

## NORTH PACIFIC COAST RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: North Pacific Coast Railroad Company.
2. Date of organization: December 16, 1871.
3. Under laws of what Government, State, or Territory organized: United States Government and State of California; incorporated under the general incorporation laws relative to railroad companies, approved May 20, 1871.
4. Original corporation.

## ORGANIZATION.

Names of Directors: J. B. Stetson, A. Borel, C. DeGuigné, J. C. Coleman, A. H. Small, C. R. Winslow, all of San Francisco, Cal.  
 Date of expiration of terms of Directors: August 10, 1896.  
 Total number of stockholders at date of last election: 6.  
 Last meeting of stockholders for election of Directors: August 12, 1895.  
 Post Office address of general and operating offices: 14 Sansome Street, San Francisco.  
 Name and address of officer to whom correspondence regarding this report should be addressed: W. F. Russell, G. F. A., 14 Sansome Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board and President .....	J. B. Stetson .....	14 Sansome St., San Francisco.
Vice-President .....	John C. Coleman .....	14 Sansome St., San Francisco.
Secretary .....	F. B. Latham .....	14 Sansome St., San Francisco.
Treasurer .....	A. Borel .....	311 Montgomery St., San Francisco.
Attorney .....	Page, McCutchen & Eells .....	Mills Building, San Francisco.
Auditor .....	F. B. Latham .....	14 Sansome St., San Francisco.
General Manager .....	J. B. Stetson .....	14 Sansome St., San Francisco.
Superintendent .....	E. H. Shoemaker .....	Sausalito, Marin County, Cal.
General Freight Agent .....	W. F. Russell .....	14 Sansome St., San Francisco.
General Passenger and Ticket Agent .....	F. B. Latham .....	14 Sansome St., San Francisco.

## PROPERTY OPERATED.

Name of Road.	Miles.
North Pacific Coast Railroad—	
San Francisco to Cazadero .....	86.75
San Anselmo to San Rafael .....	2.00
Mill Valley Junction to Mill Valley .....	1.75
San Rafael and San Quentin Railroad—	
San Rafael to San Quentin .....	3.50
Total .....	94.00

## CAPITAL STOCK.

The total par value of authorized capital stock is \$6,000,000, divided into 60,000 shares of \$100 each. The total amount issued and outstanding is \$1,500,000. No dividends were declared.

There are 15,000 shares outstanding, and the total cash realized is \$1,500,000.

There were 13,795 shares surrendered during the year.



## FUNDED DEBT.

Class of Bond or Obligation, and Date of Issue and Maturity.	Amount of Authorized Issue.	Amount Issued.	Amount Outstanding.	Cash Realized on Amount Issued.
First mortgage—Nov. 1, 1881, to Nov. 1, 1901	\$600,000 00	\$600,000 00	\$590,000 00	\$590,000 00
General mortgage—July 1, 1892, to July 1, 1912	1,500,000 00	908,000 00	908,000 00	908,000 00
Totals	\$2,100,000 00	\$1,508,000 00	\$1,498,000 00	\$1,498,000 00

Class of Bond or Obligation.	Rate.	When Payable.	Interest Accrued During Year.	Interest Paid During Year.
First mortgage	6%	May 1 and Nov. 1	\$35,400 00	\$35,400 00
General mortgage	5%	Jan. 1 and July 1	45,400 00	45,400 00
Totals			\$80,800 00	\$80,800 00

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds	\$1,508,000 00	\$1,498,000 00

Interest accrued during year, \$80,800; interest paid during year, \$80,800.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash	\$1,202 76	Audited vouchers and acc'ts.	\$5,034 68
Due from agents	4,208 19	Wages and salaries	13,012 19
Due from solvent companies and individuals	3,812 15	Matured interest coupons unpaid	29,049 96
		Miscellaneous	10,896 75
Total	\$9,223 10	Total	\$57,993 58

Materials and supplies on hand, \$2,857 58.

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock	\$1,500,000 00)	\$3,055,993 58	90.50	\$33,767 88
Bonds	1,498,000 00)			
Current liabilities	57,993 58)			
Totals	\$3,055,993 58	\$3,055,993 58	90.50	\$33,767 88

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.
North Pacific Coast R. R. ....	\$1,500,000 00	\$1,498,000 00	\$57,993 58	\$3,055,993 58
San Rafael & San Quentin R. R..	None.	None.	None.	None.
Totals.....	\$1,500,000 00	\$1,498,000 00	\$57,993 58	\$3,055,993 58

Name of Road.	Miles.	Amount per Mile of Line.
North Pacific Coast R. R. ....	90.50	\$33,767 88
San Rafael & San Quentin R. R. ....	3.50	None.
Totals .....	94.00	\$33,767 88

COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Total cost of construction during year, \$82,447; total cost to June 30, 1895, \$3,631,478 28; total cost to June 30, 1896, \$3,035,369 52 (having been reduced \$596,108 76); cost per mile, \$33,539 99.

INCOME ACCOUNT.

Gross earnings from operation.....	\$353,365 32	
Less operating expenses .....	267,074 24	
Total income.....		\$86,291 08
Deductions from income:		
Interest on funded debt accrued.....	\$80,800 00	
Interest on interest-bearing current liabilities accrued, not otherwise provided for.....	452 46	
Taxes .....	13,378 40	
Other deductions .....	203 60	
Total deductions from income.....		94,834 46
Deficit from operations of year ending June 30, 1896.....		\$8,543 38
Deficit on June 30, 1895 .....		782,566 77
Deficit on June 30, 1896 .....		\$791,110 15

EARNINGS FROM OPERATION.

Item.	Total Receipts.	Actual Earnings.
Passenger revenue.....		\$194,479 20
Mail .....	\$7,353 89	
Express.....	12,406 74	
Extra baggage and storage .....	63 15	
Other items.....	9,897 33	
		29,721 11
Total passenger earnings .....		\$224,200 31
Freight revenue .....		129,165 01
Total passenger and freight earnings.....		\$353,365 32

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway.....	\$37,620 18
Renewals of rails.....	2,908 46
Renewals of ties.....	996 45
Repairs and renewals of bridges and culverts.....	8,940 22
Repairs and renewals of fences, road crossings, signs, and cattle guards..	2,612 78
Repairs and renewals of buildings and fixtures.....	2,003 22
Repairs and renewals of docks and wharves.....	1,880 89
Other expenses.....	347 39
Total.....	\$57,309 59
Maintenance of equipment:	
Superintendence.....	\$844 05
Repairs and renewals of locomotives.....	7,447 58
Repairs and renewals of passenger cars.....	4,138 49
Repairs and renewals of freight cars.....	3,715 97
Repairs and renewals of marine equipment.....	6,595 95
Repairs and renewals of shop machinery and tools.....	1,281 67
Other expenses.....	1,187 10
Total.....	\$25,210 81
Conducting transportation:	
Superintendence.....	\$2,400 00
Engine and roundhouse men.....	16,280 99
Fuel for locomotives.....	29,271 34
Water supply for locomotives.....	1,273 84
Oil, tallow, and waste for locomotives.....	1,215 44
Other supplies for locomotives.....	33 56
Train service.....	12,032 75
Train supplies and expenses.....	595 26
Switchmen, flagmen, and watchmen.....	1,875 25
Telegraph expenses.....	1,320 00
Station service.....	23,756 37
Station supplies.....	1,245 26
Loss and damage.....	832 11
Injuries to persons.....	375 00
Operating marine equipment.....	62,374 50
Advertising.....	904 55
Rents for tracks, yards, and terminals.....	10,100 00
Stationery and printing.....	2,056 94
Other expenses.....	751 00
Total.....	\$168,691 16
General expenses:	
Salaries of general officers.....	\$8,400 00
Salaries of clerks and attendants.....	2,288 35
General office expenses and supplies.....	1,770 09
Insurance.....	1,910 45
Law expenses.....	1,005 20
Stationery and printing (general offices).....	50 65
Other expenses.....	437 94
Total.....	\$15,862 68
Recapitulation of expenses:	
Maintenance of way and structures.....	\$57,309 59
Maintenance of equipment.....	25,210 81
Conducting transportation.....	168,691 16
General expenses.....	15,862 68
Grand total.....	\$267,074 24
Percentage of operating expenses to earnings.....	75.58



## RENTALS PAID.

Item.	Cash.
Rents paid for leased roads: San Rafael & San Quentin Railroad.....	\$1 (nominal).
Other rentals paid:	
Property in San Francisco, owned by State.....	\$8,600 00
Property at San Quentin Junction, owned by — Buckelew.....	1,500 00

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Decrease.
\$3,631,478 28	Cost of road and equipment.....	\$3,035,369 52	
26,713 83	Cash and current assets.....	9,223 10	
2,310 45	Materials and supplies.....	2,857 58	
782,566 77	Profit and loss.....	8,543 38	
\$4,443,069 33	Totals.....	\$3,055,993 58	\$1,387,075 75
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Decrease.
\$2,879,500 00	Capital stock.....	\$1,500,000 00	
1,498,000 00	Funded debt.....	1,498,000 00	
65,569 33	Current liabilities.....	57,993 58	
\$4,443,069 33	Totals.....	\$3,055,993 58	\$1,387,075 75

## IMPORTANT CHANGES DURING THE YEAR.

Capital stock to the amount of 13,795 shares has been surrendered to the company, so as to reduce the value of the property on account of depreciation, and also to expunge the old profit and loss account.

## CONTRACTS, AGREEMENTS, ETC.

- Express with Wells, Fargo & Co.
- United States mails from San Francisco to Cazadero, San Quentin, and Mill Valley.
- Transportation of freight and passengers with San Francisco & North Pacific Railway Company.
- Telegraph with Western Union Telegraph Company. We furnish agents and do their business "free" when one agent can attend to it; when it goes beyond that, they furnish their own agent and operator.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount of Mortgage per Mile of Line.
First mortgage general bonds ---	San Francisco to Cazadero .....	86.75	\$16,552 48.6
	Mill Valley Junc. to Mill Valley .....	1.75	
	San Anselmo to San Rafael .....	2.00	

All equipment mortgaged. Securities mortgaged: 5.958 acres land in Sonoma County.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Number of Days Worked.	Total Yearly Compensation.	Average Daily Compensation.
General officers .....	5	1,830	\$12,300 00	\$6 72
General office clerks .....	3	1,170	2,288 35	1 96
Station agents .....	21	7,657	14,067 43	1 84
Other station men .....	17	4,869	8,214 80	1 69
Enginemen .....	12	2,462	9,043 23	3 67
Firemen .....	13	2,317	5,042 07	2 18
Conductors .....	10	2,211	6,438 53	2 91
Other trainmen .....	15	3,270	5,538 75	1 69
Machinists .....	2	505	1,689 10	3 34
Carpenters .....	1	304	1,061 55	3 49
Other shopmen .....	27	6,664	12,974 97	1 95
Section foremen .....	11	4,001	8,525 31	2 13
Other trackmen .....	85	23,395	31,596 61	1 35
Switchmen, flagmen, and watchmen .....	3	1,096	1,868 25	1 70
Telegraph operators and dispatchers .....	1	366	1,320 00	3 61
Employés—account floating equipment .....	33	9,502	22,540 50	2 37
Totals (including general officers) .....	259	71,619	\$144,509 45	\$2 02
Less general officers .....	5	1,830	12,300 00	-----
Totals (excluding general officers) .....	254	69,789	\$132,209 45	\$1 89
Distribution of above:				
General administration .....	8	3,000	\$14,588 35	\$4 86
Maintenance of way and structures .....	96	27,396	40,121 92	1 46
Maintenance of equipment .....	30	7,473	15,725 62	2 10
Conducting transportation .....	125	33,750	74,073 56	2 02
Totals (including general officers) ..	259	71,619	\$144,509 45	\$2 02
Less general officers .....	5	1,830	12,300 00	-----
Totals (excluding general officers) ..	254	69,789	\$132,209 45	\$1 89

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	1,167,427	
Number of passengers carried one mile .....	15,245,068	
Number of passengers carried one mile per mile of road .....	162,182	
Average distance carried—miles .....	13.059	
Total passenger revenue .....		\$194,479 20
Average amount received from each passenger .....		16.659
Average receipts per passenger per mile .....		01.276
Total passenger earnings .....		224,200 31
Passenger earnings per mile of road .....		2,385 10.968
Passenger earnings per train mile .....		1 00.809
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	74,798	
Number of tons carried one mile .....	3,348,261	
Number of tons carried one mile per mile of road .....	35,620	
Average distance haul of one ton—miles .....	44.764	
Total freight revenue .....		129,165 01
Average amount received for each ton of freight .....		1 72.685
Average receipts per ton per mile .....		03.828
Total freight earnings .....		129,165 01
Freight earnings per mile of road .....		1,374 09.585
Freight earnings per train mile .....		1 49.818
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		323,644 21
Passenger and freight revenue per mile of road .....		3,443 02.351
Passenger and freight earnings .....		353,365 32
Passenger and freight earnings per mile of road .....		3,759 20.553
Gross earnings from operation .....		353,365 32
Gross earnings from operation per mile of road .....		3,759 20.553
Gross earnings from operation per train mile .....		1 14.499
Operating expenses .....		267,074 24
Operating expenses per mile of road .....		2,841 21.532
Operating expenses per train mile .....		86.539
Income from operation .....		86,291 08
Income from operation per mile of road .....		917 99.021
<b>Train mileage:</b>		
Miles run by passenger trains .....	222,402	
Miles run by freight trains .....	86,215	
Total mileage trains earning revenue .....	308,617	
Miles run by construction and other trains .....	10,310	
Grand total train mileage .....	318,927	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road— Tons.	Total Freight Tonnage.	Per Cent.
<b>Products of agriculture:</b>			
Grain .....	301	301	.40
Flour .....	25	25	.03
Hay .....	576	576	.77
Fruit and vegetables .....	2,714	2,714	3.63
<b>Products of animals:</b>			
Live stock .....	2,248	2,248	3.01
Dressed meats .....	567	567	.76
Poultry, game, and fish .....	35	35	.04
Butter .....	878	878	1.18
<b>Products of forest:</b>			
Bark .....	1,039	1,039	1.39
Lumber .....	10,929	10,929	14.61
Wood .....	22,139	22,139	29.59
Charcoal .....	1,323	1,323	1.17
Manufactures: Wines, liquors, and beers .....	192	192	.26
Miscellaneous: Other commodities not mentioned above .....	31,828	31,828	42.56
Total tonnage .....	74,798	74,798	100.00



## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives:	
Passenger.....	9
Freight.....	3
Total.....	12
Cars in passenger service:	
First-class cars.....	28
Combination cars.....	5
Baggage, express, and postal cars.....	3
Other cars in passenger service.....	14
Total.....	50
Cars in freight service:	
Box cars.....	43
Flat cars.....	284
Stock cars.....	12
Total.....	339
Cars in company's service:	
Caboose cars.....	2
Total cars owned.....	391

All locomotives and 38 passenger cars are equipped with the Westinghouse air-brake; all passenger cars are supplied with the Miller coupler.

## MILEAGE.

## A. Mileage of Road Operated—All Tracks.

Line in Use.	Main Line.	Branches and Spurs.	Line Operated Under Lease.	Total Mileage Operated.	Iron Rails.	Steel Rails.
Miles of single track.....	80.75	3.75	3.50	88.00	41.25	46.75
Miles of second track.....	3.25			3.25		3.25
Miles of yard track and sid- ings.....	12.00			12.00	12.00	
Total mileage operated...	96.00	3.75	3.50	103.25	53.25	50.00

## B. Mileage of Line Operated, by States and Territories—Single Track.

State.	Main Line.	Branches and Spurs.	Line Operated Under Lease.	Total Mileage Operated.	Iron Rails.	Steel Rails.
California.....	80.75	3.75	3.50	88.00	41.25	46.75

## C. Mileage of Line Owned, by States and Territories—Single Track.

State.	Main Line.	Branches and Spurs.	Total Mileage Owned.	Iron Rails.	Steel Rails.
California.....	80.75	3.75	84.50	37.75	46.75

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Soft Wood —Cords.	Total Fuel Consumed— Tons.	Miles Run.	Average Lbs. Consumed per Mile.
Passenger -----	1,858.75	3,890.00	3,803.75	222,402	34.20
Freight -----	7.50	2,926.50	1,470.75	86,215	34.12
Construction -----		289.00	144.50	10,310	28.03
Totals -----	1,866.25	7,105.50	5,419.00	318,927	33.98

Average cost at distributing point: Coal, \$5 88 per ton; wood, \$2 69 per cord.

## ACCIDENTS.

Persons—Kind of Accident.	Killed.	Injured.
Trainmen—"Other causes" -----	1	1
Passengers—"Other train accidents" -----		1
Others (not trespassing)—At highway crossings -----		1
Totals -----	1	3

One employé killed by running locomotive on apron at freight slip, contrary to orders.

One employé injured at freight slip.

One person injured by running into locomotive.

One passenger injured foot on train.

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Wooden -----	12	780 feet.	60 feet.	150 feet.
Combination -----	1			
Total -----	13			
Tunnels -----	5	7,321 feet.	400 feet.	2,629 feet.

Item.	Height Above Surface of Rail.
Tunnels -----	13 ft. 6 in.

Gauge of track, 3 feet; length, 84.50 miles.

TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD  
MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
88	88	Western Union -----	North Pacific Coast Railroad Company.

STATE OF CALIFORNIA, }  
 City and County of San Francisco. } ss.

I, the undersigned, James B. Stetson, President of the North Pacific Coast Railroad Company, on my oath, do say that the foregoing return has been prepared, under my direction, from the original books, papers, and records of said company; that I have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of my knowledge, information, and belief; and I further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JAMES B. STETSON,  
 President.

Subscribed and sworn to before me, this 8th day of August, 1896.

HARRY N. STETSON,  
 Notary Public in and for the City and County of San Francisco, State of California.

## PACIFIC COAST RAILWAY COMPANY.

[For the year ending November 30, 1895.]

### HISTORY.

1. Name of common carrier making this report: Pacific Coast Railway Company.
2. Date of organization: September 21, 1882.
3. Under laws of what Government, State, or Territory organized: State of California.
4. Names of constituent companies: Consolidation of the San Luis Obispo & Santa Maria Valley Railroad Company (organized April 16, 1875), and the Pacific Coast Railroad Company (organized April 18, 1882).
5. Date and authority for each consolidation: September 18, 1882, for 50 years. Lawful by the laws of the State of California, having obtained, in writing, consent of stockholders representing three fourths in value of all the stock of each corporation.

### ORGANIZATION.

Names of Directors.	Post Office Address.
C. J. Smith .....	Seattle, Washington.
John L. Howard .....	San Francisco.
Chas. Goodall .....	San Francisco.
Edwin Goodall .....	San Francisco.
Sidney V. Smith .....	San Francisco.
S. G. Murphy .....	San Francisco.
Wm. Norris .....	San Francisco.
W. H. Starbuck .....	New York.
F. A. Prince .....	New York.

Directors elected annually at stockholders' meeting the first Thursday after December 20th, excepting when same falls on holiday or Sunday; then on the day following.

Total number of stockholders at date of last election: 10.

Last meeting of stockholders for election of Directors: January 15, 1895. There was a special meeting October 17, 1895.

Post Office address of general office: San Francisco.

Post Office address of operating office: San Luis Obispo, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: J. G. Whittington, Accountant, San Francisco.



## OFFICERS.

Title.	Name.	Location of Office.
President .....	C. J. Smith .....	Seattle, Wash.
Vice-President .....	John L. Howard .....	San Francisco.
Secretary .....	Edwin Goodall .....	San Francisco.
Treasurer .....	Oregon Improvement Co., C. J. Smith, Receiver .....	Seattle, Wash.
Attorney, or General Counsel .....	Wilcoxon & Bouldin .....	San Luis Obispo.
Accountant .....	J. G. Whittington .....	San Francisco.
General Superintendent, and General Freight, Passenger, and Baggage Agent .....	C. O. Johnson .....	San Luis Obispo.

## PROPERTY OPERATED.

Name of Road.	Miles of Line for Each Road Named.	Miles for Each Class of Roads Named.
Class 1—Pacific Coast Railway :		
Port Harford to San Luis Obispo .....	10 $\frac{3}{10}$	76 $\frac{1}{10}$ A
San Luis Obispo to Santa Maria .....	31 $\frac{4}{10}$	
Santa Maria to Los Alamos .....	22 $\frac{1}{10}$	
Los Alamos to Los Olivos .....	12 $\frac{8}{10}$	
Spur at San Luis Obispo .....	1 $\frac{8}{10}$	1 $\frac{9}{10}$ B
Spur at Blakes .....	$\frac{1}{10}$	
Total .....		78

This company also operates (and owns) a wharf at Port Harford, Cal.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$1,370,400, divided into 13,704 shares of a par value of \$100 each. The total amount issued and outstanding is \$1,370,400; total number of shares issued and outstanding, 13,704. No dividends were declared during the year.

Issued for construction: 1,370 bonds.

Construction contract of October 2, 1882, with Oregon Improvement Co.—Substance: The Oregon Improvement Co. will complete road already constructed, make changes and extensions, furnish additional equipment, etc.; assumes floating debt, and all outstanding obligations. In lieu of the above the Oregon Improvement Co. receives entire capital stock, and also receives from the trustee the entire bond issue as per terms of contract.

## FUNDED DEBT.

In November, 1882, first mortgage bonds were issued by the company to the amount of \$1,370,000; amount outstanding, \$1,370,000. These bonds mature in 1922, and bear 6 per cent interest, payable semi-annually. The amount of interest accruing during year was \$82,200, which was paid in full.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$1,370,000 00	\$1,370,000 00

Interest accrued during year, \$82,200; interest paid during year, \$82,200.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and including November 30, 1895.
Due from agents .....	Audited vouchers and accounts .....
Due from solvent companies and individuals .....	Wages and salaries .....
Other cash assets .....	Matured interest coupons unpaid .....
Oregon Improvement Co. ....	Total current liabilities .....
Total .....	Balance—cash assets .....
	Total .....

Materials and supplies on hand, \$35,265 66.

The Oregon Improvement Co. (owning entire stock and bonds) acts as Treasurer for the Pacific Coast Railway Company; all collections, or receipts, are deposited to their credit, and they do the disbursing for account of the railway company.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$1,370,400 00	\$1,370,400 00	78	\$17,569 00
Bonds .....	1,370,000 00	1,370,000 00		17,564 00
Current liabilities .....	40,331 94	40,331 94		517 00
Totals .....	\$2,780,731 94	\$2,780,731 94	78	\$35,650 00

## B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.	Miles.	Amount per Mile of Line.
Pacific Coast Railway ..	\$1,370,400	\$1,370,000	\$40,331 94	\$2,780,731 94	78	\$35,650 00

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Total Cost to Nov. 30, 1895.
Construction:	
Right of way .....	\$7,432 36
Other real estate .....	1,013 50
Fences .....	46,710 28
Grading, and bridge and culvert masonry .....	168,292 29
Bridges and trestles .....	31,727 11
Rails .....	71,979 25
Ties .....	20,930 28
Other superstructure .....	2,081 91
Buildings, furniture, and fixtures .....	28,839 53
Shop machinery and tools .....	9,286 51
Engineering expenses .....	18,923 57
Interest during construction .....	20,056 06
Discount on securities sold for construction .....	838,628 86
Telegraph line .....	501 55
Wharfing, etc. ....	33,208 22
Sidings and yard extensions .....	3,516 38
Purchase of constructed road and equipment .....	939,624 81
Other items .....	11,977 59
Equipment:	
Locomotives .....	16,934 18
Passenger and baggage cars .....	22,450 20
Freight cars .....	9,120 05
Other cars of all classes .....	50,784 03
Total cost construction, equipment, etc. ....	\$2,354,018 52

Cost per mile, \$30,179 72.

## INCOME ACCOUNT.

Gross earnings from operation .....	\$112,372 38	
Less operating expenses .....	80,000 04	
Income from operation .....	\$32,372 34	
Less expenses .....	1,134 73	
Total income .....		\$31,237 61
Deductions from income:		
Interest on funded debt accrued .....	\$82,200 00	
Taxes .....	6,263 18	
Total deductions from income .....		88,463 18
Deficit .....		\$57,225 57
Deficit from operations of year ending November 30, 1895 .....		\$57,225 57
Deficit on November 30, 1894 .....		25,694 67
Deductions for year .....		22,351 92
Deficit on November 30, 1895 .....		\$105,272 16

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Passenger revenue .....	\$31,362 27		
Tickets redeemed .....		\$64 85	
Excess fares refunded .....		77 30	
Total deductions .....		\$142 15	
Total passenger revenue .....			\$31,220 12
Mail .....			5,699 92
Express .....			582 50
Extra baggage and storage .....			63 72
Total passenger earnings .....			\$37,566 26

## EARNINGS FROM OPERATION—Continued.

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Freight revenue .....	\$79,287 04		
Less overcharge to shippers .....		\$4,480 92	
Total freight revenue .....			\$ 74,806 12
Total gross earnings from operation .....			\$112,372 38

## MISCELLANEOUS INCOME.

Item.	Gross Income.	Less Expenses.	Net Income.
Warehouses and wharf property .....	\$14,894 32	\$16,205 43	*\$1,311 11
Interest discounts .....	176 38		176 38
Totals .....	\$15,070 70	\$16,205 43	*\$1,134 73

\*Deduction.

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway, and renewals of rails and ties .....	\$23,434 08
Repairs and renewals of bridges and culverts .....	2,059 84
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	906 31
Repairs and renewals of buildings and fixtures .....	1,568 58
Repairs and renewals of telegraph .....	136 16
Total .....	\$28,104 97
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$4,091 10
Repairs and renewals of passenger cars .....	2,524 79
Repairs and renewals of freight cars .....	2,843 30
Repairs and renewals of shop machinery and tools .....	737 79
Total .....	\$10,196 98
Conducting transportation:	
Engine and roundhouse men .....	\$4,061 82
Fuel for locomotives .....	12,333 14
Water supply for locomotives .....	297 80
Oil, tallow, and waste for locomotives .....	242 66
Other supplies for locomotives .....	133 78
Train service .....	4,481 83
Train supplies and expenses .....	1,802 45
Station service .....	8,936 05
Station supplies .....	1,191 89
Loss and damage .....	447 94
Injuries to persons .....	745 60
Advertising and printing .....	238 71
Total .....	\$34,913 67
General expenses:	
Salaries of clerks and attendants, and general office expenses and supplies .....	\$4,730 20
Insurance .....	1,645 64
Law expenses .....	408 58
Total .....	\$6,784 42
Recapitulation of expenses:	
Maintenance of way and structures .....	\$28,104 97
Maintenance of equipment .....	10,196 98
Conducting transportation .....	34,913 67
General expenses .....	6,784 42
Grand total .....	\$80,000 04
Percentage of operating expenses to earnings .....	71.2

Operating accounts as prescribed by the Commission not adopted by the Pacific Coast Railway Company until December 1, 1895.



## COMPARATIVE GENERAL BALANCE SHEET.

Nov. 30, 1894.	Assets.	Nov. 30, 1895.	Nov. 30, 1895— Increase.	Nov. 30, 1895— Decrease.
\$2,354,018 52	Cost of road and equipment .....	\$2,354,018 52		
331,567 59	Cash and current assets .....	286,175 60		\$45,391 99
66,212 11	Materials and supplies .....	35,265 66		30,946 45
25,694 67	Profit and loss .....	105,272 16	\$79,577 49	
\$2,777,492 89	Totals .....	\$2,780,731 94	\$3,239 05	
Nov. 30, 1894.	Liabilities.	Nov. 30, 1895.	Nov. 30, 1895— Increase.	Nov. 30, 1895— Decrease.
\$1,370,400 00	Capital stock .....	\$1,370,400 00		
1,370,000 00	Funded debt .....	1,370,000 00		
16,542 89	Current liabilities .....	19,781 94	\$3,239 05	
20,550 00	Accrued interest on funded debt not yet payable .....	20,550 00		
\$2,777,492 89	Totals .....	\$2,780,731 94	\$3,239 05	

## EMPLOYÉES AND SALARIES.

Class.	Number.	Number of Days Worked.	Yearly Compensation.	Average Daily Compensation.
General officers* .....	2	730	\$2,349 98	\$3 22
Other officers .....	2	730	2,895 00	3 97
General office clerks .....	5	1,587	2,292 15	1 45
Station agents .....	6	2,196	3,699 25	1 69
Other station men .....	9	1,870	2,137 60	1 15
Enginemen .....	2	664	2,251 10	3 39
Firemen .....	2	680	1,362 00	2 00
Conductors .....	2	738	1,938 15	2 70
Other trainmen .....	5	1,029	2,053 65	1 67
Machinists .....	1	290	939 30	3 24
Carpenters .....	5	1,457	3,808 27	2 61
Other shopmen .....	14	3,429	6,813 55	1 99
Section foremen .....	6	2,481	4,894 00	1 97
Other trackmen .....	35	8,648	13,837 93	1 60
Switchmen, flagmen, and watchmen .....	2	730	750 00	1 03
Telegraph operators and dispatchers .....	2	546	923 80	1 70
All other employés and laborers .....	11	750	1,117 63	1 49
Total (including general officers) .....	111	28,755	\$54,118 36	\$1 96
Less general officers .....	2	730	2,349 98	
Total (excluding general officers) .....	109	28,025	\$51,768 38	\$1 85
Distribution of above:				
General administration .....			\$4,642 13	
Maintenance of way and structures .....			24,920 78	
Maintenance of equipment .....			7,017 27	
Conducting transportation .....			17,538 18	
Total (including general officers) .....			\$54,118 36	
Less general officers .....			2,349 98	
Total (excluding general officers) .....			\$51,768 38	

\* General officers receiving no compensation from Pacific Coast Railway Company: President, Vice-President, and Secretary.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount of Mortgage per Mile of Line.
First mortgage .....	Port Harford to Los Olivos ..	78	\$17,564 00

All equipment is mortgaged.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	34,155	
Number of passengers carried one mile .....	747,790	
Number of passengers carried one mile per mile of road .....	437 $\frac{9}{10}$	
Average distance carried—miles .....	20 $\frac{6}{10}$	
Total passenger revenue .....		\$31,220 12
Average amount received from each passenger .....		91.407
Average receipts per passenger per mile .....		04.176
Total passenger earnings .....		37,566 26
Passenger earnings per mile of road .....		481 61.872
Passenger earnings per train mile .....		19.424
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	47,280 $\frac{3}{10}$	
Number of tons carried one mile .....	1,491,010	
Number of tons carried one mile per mile of road .....	606 $\frac{2}{10}$	
Average distance haul of one ton—miles .....	31 $\frac{6}{10}$	
Total freight revenue .....		74,806 12
Average amount received for each ton of freight .....		1 58.219
Average receipts per ton per mile .....		05.017
Total freight earnings .....		74,806 12
Freight earnings per mile of road .....		959 05
Freight earnings per train mile .....		27.772
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		106,026 24
Passenger and freight revenue per mile of road .....		1,359 31
Passenger and freight earnings .....		112,372 38
Passenger and freight earnings per mile of road .....		1,440 67
Gross earnings from operation .....		112,372 38
Gross earnings from operation per mile of road .....		1,440 67
Gross earnings from operation per train mile .....		24.283
Operating expenses .....		80,000 04
Operating expenses per mile of road .....		1,025 64
Operating expenses per train mile .....		17.288
Income from operation .....		32,372 34
Income from operation per mile of road .....		415 03
<b>Train mileage:</b>		
Miles run by passenger trains .....	193,399	
Miles run by freight trains .....	269,357	
Grand total train mileage .....	462,756	
Mileage of loaded freight cars—north .....	116,177	
Mileage of loaded freight cars—south .....	74,972	
Mileage of empty freight cars—north .....	23,649	
Mileage of empty freight cars—south .....	54,559	
Average number of freight cars in train .....	} Not on record.	
Average number of loaded cars in train .....		
Average number of empty cars in train .....		
Average number of tons of freight in train .....		
Average number of tons of freight in each loaded car .....		

## IMPORTANT CHANGES DURING THE YEAR.

Nothing of importance.

## CONTRACTS, AGREEMENTS, ETC.

*U. S. Government Post Office Department.*—To carry Mail Route 46,041, San Luis Obispo to Los Olivos; to carry Mail Route 46,040, San Luis Obispo to Port Harford.

*Western Union Telegraph Company.*—This company furnishes operators for transaction of their business over line constructed by telegraph company.

*Wells, Fargo & Co.'s Express.*—To transmit their freight and treasure over this company's line between stations, at first-class freight rates.

*Pacific Coast Steamship Company.*—To sell coupon tickets over their line, and they to sell over this company's line.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.	Received from Connecting Roads— Tons.	Total Freight Tonnage.	Per Cent.
Products of agriculture:				
Grain .....	10,245	19	10,264	21.71
Flour .....	305	288	593	1.25
Hay .....	100		100	.21
Fruit and vegetables .....	1,217	102	1,319	2.80
Beans .....	3,702		3,702	7.83
Products of animals:				
Live stock .....	1,351	10	1,361	2.88
Wool .....	106		106	.21
Hides and leather .....	143		143	.30
Products of mines:				
Bituminous coal .....	503	13	516	1.09
Ores .....	22		22	.05
Stone, sand, and other like articles .....	332	23	355	.76
Bituminous rock .....	4,431		4,431	9.37
Products of forest: Lumber .....	1,417	6,191	7,608	16.09
Manufactures:				
Cement, brick, and lime .....	295	227	522	1.10
Agricultural implements .....	17	30	47	.10
Merchandise .....	4,892	6,662	11,554	24.44
Miscellaneous: Other commodities not mentioned above .....	3,334	1,303	4,637	9.81
Total tonnage .....	32,412	14,868	47,280	100.00

## DESCRIPTION OF EQUIPMENT.

Item.	Total at End of Year.
Locomotives .....	6
Cars in passenger service:	
First-class cars .....	6
Combination cars .....	2
Baggage, express, and postal cars .....	2
Total .....	10
Cars in freight service:	
Box cars .....	23
Flat cars .....	154
Stock cars .....	11
Total .....	188
Cars in company's service:	
Derrick cars .....	1
Other road cars .....	23
Total .....	24
Total cars owned .....	222

Five of the locomotives are equipped with the Westinghouse air-brake and Miller coupler; all cars in the passenger service are equipped with the Westinghouse brake and Miller coupler. Freight cars and those in the company's service are supplied with ordinary hand-brakes and link and pin couplers.

## MILEAGE.

*A. Mileage of Road Operated—All Tracks.*

Line in Use.	Main Line.	Branches and Spurs.	Total Mileage Operated.	Iron Rails.	Steel Rails.
Miles of single track.....	76 $\frac{1}{10}$	1 $\frac{9}{10}$	78	27 $\frac{9}{10}$	50 $\frac{1}{10}$
Miles of yard track and sidings.....	3 $\frac{6}{10}$	-----	3 $\frac{6}{10}$	3 $\frac{6}{10}$	-----
Total mileage operated.....	79 $\frac{7}{10}$	1 $\frac{9}{10}$	81 $\frac{6}{10}$	31 $\frac{5}{10}$	50 $\frac{1}{10}$

*B. Mileage of Line Owned and Operated, by States and Territories—Single Track.*

State.	Main Line.	Branches and Spurs.	Total Mileage Operated.	Iron Rails.	Steel Rails.
California .....	76 $\frac{1}{10}$	1 $\frac{9}{10}$	78	27 $\frac{9}{10}$	50 $\frac{1}{10}$

## NEW RAILS LAID DURING YEAR.

Kind.	Tons.	Weight per Yard.	Average Price per Ton.
Iron .....	4 $\frac{15}{100}$	35	\$20 70
Steel .....	34 $\frac{9}{10}$	45	36 50

## NEW TIES LAID DURING YEAR.

Kind.	Number.	Average Price.
Redwood, 7 x 8 x 8 .....	6,324	36 $\frac{8}{10}$ cts.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Hard Wood—Cords.	Total Fuel Consumed—Tons.	Miles Run.	Average Pounds Consumed per Mile.
Passenger .....	431.70	654.63	868.12	51,400	37.83
Freight .....	391.54	593.74	787.36	45,940	38.39
Switching and miscellaneous.....	180.92	274.03	363.41	20,750	39.23
Totals .....	1,003.96	1,522.40	2,018.89	118,090	38.29

Average cost at distributing point: \$5 16 per ton for coal; \$4 70 per cord for wood.

## ACCIDENTS TO PERSONS.

Persons—Kind of Accident.	Killed.	Injured.
Trainmen—fell from train.....	-----	1
Other employes—at stations.....	-----	2
Others (not trespassing)—at highway crossings .....	1	1
Totals .....	1	4



Brakeman blown off lumber car, slightly injured.

Other employes: Laborer injured lifting heavy rail; laborer fell from tank while painting—injury slight.

Others: I. Kyte, driving immediately in front of train at private crossing, injured; recovered in 30 days; F. Assis, Indian, struck at crossing and killed.

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		
		Number of Curves	Aggregate Length of Curved Line—Miles	Length of Straight Line—Miles
Port Harford to Los Olivos .....	76 $\frac{1}{10}$	208	21.39	55.09

Working Divisions or Branches.	Profile.					
	Length of Level Line—Miles	Number of Ascending Grades	Sum of Ascents of Ascending Grades—Feet	Aggregate Length of Ascending Grades—Miles	Number of Descending Grades	Sum of Descents of Descending Grades—Feet
Port Harford to Los Olivos ....	6.80	27	2,018.1	44.13	24	1,201.3

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Wooden .....	2	224 ft. 6 in.	98 ft.	126 ft. 6 in.
Combination .....	1	396 ft.	396 ft.	396 ft.
Totals .....	3	620 ft. 6 in.		
Trestles .....	95	9,812 ft.	12 ft.	3,510 ft.

Gauge of track, 3 feet; length, 78 miles.

TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD MAKING THIS REPORT.

Miles of Line.	Name of Owner.	Name of Operating Company.
78	Western Union Telegraph Company	Western Union Telegraph Company.

STATE OF CALIFORNIA,  
City and County of San Francisco. } ss.

We, the undersigned, John L. Howard, Vice-President, and J. G. Whittington, Accountant, of the Pacific Coast Railway Company, on our oath, do severally say that the foregoing return has been prepared under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JOHN L. HOWARD,  
Vice-President.  
J. G. WHITTINGTON,  
Accountant.

Subscribed and sworn to before me, this 5th day of May, 1896.

JAMES L. KING,  
Notary Public.

## NEVADA-CALIFORNIA-OREGON RAILWAY.

### HISTORY.

1. Name of common carrier making this report: Nevada-California-Oregon Railway.
2. Date of organization: April 2, 1888.
3. Under laws of what Government, State, or Territory organized: Under the laws of the State of Nevada.
4. Name the constituent companies: Inapplicable.
5. Date and authority for each consolidation: Inapplicable.
6. Name of original corporation: Inapplicable.

### ORGANIZATION.

Names of Directors.	Post Office Address.
Daniel Comyn Moran .....	..... New York.
Erasmus Gest .....	..... Reno, Nev.
Robt. L. Fulton .....	..... Reno, Nev.
A. H. Manning .....	..... Reno, Nev.
One vacancy .....	.....

Date of expiration of term undetermined; dependent upon further actions of stockholders.

Number of stockholders at date of last election: 10.

Last meeting of stockholders for election of Directors: March 22, 1888.

Post Office address of general and operating offices: Reno, Washoe County, Nev.

Name and address of officer to whom correspondence regarding this report should be addressed: E. Gest, Manager, Reno, Nevada.

### OFFICERS.

Title.	Name.	Location of Office.
President .....	Daniel Comyn Moran .....	68 William St., New York.
Vice-President .....	Erasmus Gest .....	Reno, Nev.
Secretary .....	Frank R. Lewis .....	Reno, Nev.
Treasurer .....	Moran Brothers .....	68 William St., New York.
Cashier .....	Frank R. Lewis .....	Reno, Nev.
Auditor .....	Frank R. Lewis .....	Reno, Nev.
General Manager and Chief Engineer .....	Erasmus Gest .....	Reno, Nev.
Traffic Manager .....	John M. Fulton .....	Reno, Nev.

The duties of General Freight Agent, General Passenger Agent, General Ticket Agent, and General Baggage Agent are performed by John M. Fulton.

## PROPERTY OPERATED.

This company operates the Nevada-California-Oregon Railway, from Reno, Nevada, to Amedee, California, a distance of 79 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$2,200,000, divided into 22,000 shares of a par value of \$100 each. Ten per cent (or 2,200 shares) has been subscribed, payable on demand in pursuance of the statutes of Nevada.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash .....	\$5,987 95	Loans and bills payable .....	\$32,596 75
Due from agents .....	716 68	Audited vouchers and accounts .....	4,817 48
Due from solvent companies and individuals .....	2,234 44	Wages and salaries .....	1,660 70
Total cash and current assets .....	\$8,939 07	Net traffic balances due to other companies .....	3,101 73
Balance—current liabilities .....	33,237 59		
Total .....	\$42,176 66	Total .....	\$42,176 66

Materials and supplies on hand, \$16,652 92.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Total Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Current liabilities .....	\$42,176 66	\$42,176 66	79	\$534 00

## B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.

Name of Road.	Total Current Liabilities.	Miles.	Amount per Mile of Line.
Nevada-California-Oregon Railway Co. ....	\$42,176 66	79	\$534 00

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost per Mile.
Construction:				
Right of way .....		\$850 00	\$850 00	\$10 76
Other real estate .....	\$458 35	1,632 36	2,090 71	26 46
Fences, grading, bridge and culvert masonry, and bridges and trestles .....	9,435 10	25,435 93	34,871 03	441 41
Buildings, furniture, and fixtures .....	138 41	2,258 92	2,397 33	30 35
Sidings and yard extensions .....		3,658 00	3,658 00	46 30
Terminal facilities and elevators .....		348 99	348 99	4 42
Other items .....	21,164 90	2,122 82	23,287 72	294 78
Total construction .....	\$31,196 76	\$36,307 02	\$67,503 78	\$854 48
Equipment:				
Freight cars .....		1,924 26	1,924 26	24 36
Total cost construction, equipment, etc. ....	\$31,196 76	\$38,231 28	\$69,428 04	\$878 84

## INCOME ACCOUNT.

Gross earnings from operation .....	\$59,280 31	
Less operating expenses .....	41,866 00	
Income from operation .....		\$17,414 31
Income from other sources .....		76 48
Total income .....		\$17,490 79
Deductions from income:		
Rents paid for lease of road .....	\$205 00	
Taxes .....	4,547 53	
Other deductions .....	12 40	
Total deductions from income .....		4,764 93
Net income .....		\$12,725 86
Surplus from operations of year ending June 30, 1896 .....		\$12,725 86
Surplus on June 30, 1895 .....		34,421 81
Surplus on June 30, 1896 .....		\$47,147 67

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Actual Earnings.
Passenger revenue .....		\$11,629 47
Mail .....	\$6,037 75	
Express .....	703 30	
Extra baggage and storage .....	153 04	6,894 09
Total passenger earnings .....		\$18,523 56
Total freight earnings .....		39,327 85
Total passenger and freight earnings .....		\$57,851 41
Other earnings from operation:		
Switching charges .....	\$63 00	
Rents from tracks, yards, and terminals .....	588 25	
Other sources .....	777 65	
Total other earnings .....		1,428 90
Total gross earnings from operation .....		\$59,280 31

## RENTALS RECEIVED.

Designation of Property.	Situation of Property Leased.	Name of Company Using Property Leased.	Item.
Stockyards .....	Amedee, Cal. ....	Sundry parties .....	\$23 25
Warehouse .....	Amedee, Cal. ....	D. W. Earl & Co. ....	440 00
Ground rent .....	Reno, Nev. ....	Sundry parties .....	125 00
Total rents .....			\$588 25

Miscellaneous receipts: \$76 48.



## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$5,653 79
Renewals of rails .....	520 00
Renewals of ties .....	5,611 36
Repairs and renewals of bridges and culverts .....	32 30
Repairs and renewals of fences, road crossings, signs, and cattle guards ..	361 80
Repairs and renewals of buildings and fixtures .....	453 94
Stationery and printing .....	1 83
Other expenses .....	177 97
Total .....	\$12,812 99
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$1,613 88
Repairs and renewals of passenger cars .....	900 81
Repairs and renewals of freight cars .....	2,116 67
Repairs and renewals of shop machinery and tools .....	54 00
Stationery and printing .....	6 10
Other expenses .....	217 65
Total .....	\$4,909 11
Conducting transportation:	
Engine and roundhouse men .....	\$3,756 50
Fuel for locomotives .....	5,543 40
Water supply for locomotives .....	422 14
Oil, tallow, and waste for locomotives .....	470 51
Train service .....	2,240 21
Train supplies and expenses .....	71 57
Station service .....	4,139 15
Station supplies .....	237 02
Loss and damage .....	13 40
Advertising .....	87 19
Stockyards and elevators .....	114 18
Stationery and printing .....	195 89
Other expenses .....	475 21
Total .....	\$17,766 37
General expenses:	
Salaries of general officers .....	\$3,750 00
Salaries of clerks and attendants .....	1,794 35
General office expenses and supplies .....	504 34
Law expenses .....	10 00
Stationery and printing (general offices) .....	181 06
Other expenses .....	137 78
Total .....	\$6,377 53
Recapitulation of expenses:	
Maintenance of way and structures .....	\$12,812 99
Maintenance of equipment .....	4,909 11
Conducting transportation .....	17,766 37
General expenses .....	6,377 53
Grand total .....	\$41,866 00
Percentage of operating expenses to earnings .....	70.6

## RENTALS PAID.

To Southern Pacific Company for rent of realty necessary to the operation of the road, and which should have been supplied by purchase, \$205.

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$36,307 02	Cost of road .....	\$67,503 78	\$31,196 76	
1,924 26	Cost of equipment .....	1,924 26		
20,473 54	Cash and current assets .....	8,939 07		\$11,534 47
18,263 14	Materials and supplies .....	16,652 92		1,610 22
\$76,967 96	Totals .....	\$95,020 03	\$18,052 07	
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	
\$37,003 90	Current liabilities .....	\$42,176 66		\$5,172 76
34,421 81	Profit and loss .....	47,147 67		12,879 31
5,542 25	Profit and loss—book account .....	5,695 70		
\$76,967 96	Totals .....	\$95,020 03	\$18,052 07	

## CONTRACTS, AGREEMENTS, ETC.

1. Wells, Fargo & Co.'s Express. Regular rate to Chat, 50 cents per 100 pounds; regular rate to Amedee, \$1 per 100 pounds; special rate to Chat, 25 cents per 100 pounds; special rate to Amedee, 50 cents per 100 pounds.
2. Mail according to Government rules.
3. No sleeping, parlor, or dining cars on the road.
4. No contracts with freight or transportation companies.
5. No contracts with other railroad companies.
6. No contracts with steamship companies.
7. No contracts with telegraph companies.
8. No other contracts.

## EMPLOYÉES AND SALARIES.

Class.	Number.	Total Days Worked.	Yearly Compensation.	Average Daily Compensation.
General officers .....	2	732	\$3,750 00	\$5 12
General office clerks .....	2	785	2,039 35	2 60
Station agents .....	3	1,119	2,714 85	2 43
Other station men .....	2	621	1,171 70	1 88
Enginemen .....	2	675	2,361 60	3 50
Firemen .....	2	678	1,425 55	2 10
Conductors .....	2	651	2,105 52	3 23
Machinists .....	1	321	889 36	2 77
Other shopmen .....	2	628	1,256 00	2 00
Section foremen .....	2	634	1,646 46	2 60
Other trackmen .....	12	3,646	6,030 96	1 65
All other employés and laborers .....	2	658	1,042 60	1 58
Total (including general officers) .....	34	11,148	\$26,433 95	\$2 37
Less general officers .....	2	732	3,750 00	5 12
Total (excluding general officers) .....	32	10,416	\$22,683 95	\$2 18
Distribution of above:				
General administration .....	4	1,517	\$5,789 35	\$3 82
Maintenance of way and structures .....	16	4,938	8,720 02	1 77
Maintenance of equipment .....	3	949	2,145 36	2 26
Conducting transportation .....	11	3,744	9,779 22	2 61
Total (including general officers) .....	34	11,148	\$26,433 95	\$2 37
Less general officers .....	2	732	3,750 00	5 12
Total (excluding general officers) .....	32	10,416	\$22,683 95	\$2 18

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue.....	4,600	
Number of passengers carried one mile.....	260,950	
Number of passengers carried one mile per mile of road.....	3,303.165	
Average distance carried—miles.....	56.728	
Total passenger revenue.....		\$11,629 47
Average amount received from each passenger.....		2 52.815
Average receipts per passenger per mile.....		04.457
Total passenger earnings.....		18,523 56
Passenger earnings per mile of road.....		234 48
Passenger earnings per train mile.....		34.904
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue.....	16,464	
Number of tons carried one mile.....	1,049,230	
Number of tons carried one mile per mile of road.....	13,281.392	
Average distance haul of one ton—miles.....	63.729	
Total freight revenue.....		39,327 85
Average amount received for each ton of freight.....		2 38.872
Average receipts per ton per mile.....		03.748
Total freight earnings.....		39,327 85
Freight earnings per mile of road.....		497 82
Freight earnings per train mile.....		74.106
<b>Passenger and freight:</b>		
Passenger and freight revenue.....		50,957 32
Passenger and freight revenue per mile of road.....		645 03
Passenger and freight earnings.....		57,851 41
Passenger and freight earnings per mile of road.....		732 30
Gross earnings from operation.....		59,280 31
Gross earnings from operation per mile of road.....		750 38
Gross earnings from operation per train mile.....		1 11.702
Operating expenses.....		41,866 00
Operating expenses per mile of road.....		529 95
Operating expenses per train mile.....		78.888
Income from operation.....		17,414 31
Income from operation per mile of road.....		220 43
Train mileage: Miles run by mixed trains.....	53,070	
Total mileage trains earning revenue.....	53,070	
Miles run by switching trains.....	3,245	
Miles run by construction and other trains.....	4,630	
Grand total train mileage.....	60,945	
Mileage of loaded freight cars—north or east.....	41,793	
Mileage of loaded freight cars—south or west.....	99,887	
Mileage of empty freight cars—north or east.....	67,677	
Mileage of empty freight cars—south or west.....	13,448	
Average number of freight cars in train.....	5.812	
Average number of loaded cars in train.....	3.562	
Average number of empty cars in train.....	2.250	
Average number of tons of freight in train.....	25.323	
Average number of tons of freight in each loaded car.....	7.109	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.	Received From Connecting Roads—Tons.	Total Freight Tonnage.	Per Cent.
Products of agriculture:				
Grain .....	630	0	630	3.83
Flour .....	112	18	130	.79
Other mill products .....	16	35	51	.31
Hay .....	11	0	11	.07
Fruit and vegetables .....	729	47	776	4.72
General farm products .....	147	62	209	1.27
Products of animals:				
Live stock .....	7,372	5	7,377	44.81
Dressed meats .....	24	1	25	.15
Other packing-house products .....	4	42	46	.28
Poultry, game, and fish .....	22	3	25	.15
Wool .....	402	0	402	2.44
Hides and leather .....	20	11	31	.19
Products of mines:				
Anthracite coal .....	2	12	14	.09
Ores, minerals, stone, sand, and other like articles .....	0	4	4	.03
Products of forest:				
Lumber .....	151	437	588	3.57
Cord wood .....	2,654	30	2,684	16.30
Manufactures:				
Petroleum and other oils .....	6	140	146	.89
Sugar .....	11	351	362	2.14
Iron (pig and bloom), and hardware .....	20	331	351	2.13
Iron and steel rails .....	0	467	467	2.84
Other castings and machinery .....	18	106	124	.76
Bar and sheet metal .....	0	32	36	.22
Cement, brick, and lime .....	12	12	24	.15
Agricultural implements .....	15	47	62	.38
Wagons, carriages, tools, etc. ....	12	68	80	.49
Wines, liquors, and beers .....	94	134	228	1.39
Household goods and furniture .....	37	72	109	.66
Chemicals and drugs .....	29	45	74	.45
Merchandise .....	100	1,051	1,151	6.99
Tobacco .....	4	44	48	.29
Miscellaneous: Other commodities not mentioned above .....	163	19	182	1.11
Explosive .....	1	16	17	.11
Total tonnage .....	12,818	3,616	16,464	100.00

## MILEAGE OF ROAD OWNED AND OPERATED.

Line in Use.	Main Line.	Iron Rails.	Steel Rails.
Miles of single track .....	79.00	26.50	52.50
Miles of yard track and sidings .....	4.40	4.40	-----
Totals (all tracks) .....	83.40	30.90	52.50

There are 59.86 miles of main line in California and 28.14 miles in Nevada; 25.50 miles of steel and 25.36 miles of iron rails in California, and 27 miles of steel and 1.14 miles of iron rails in Nevada.



## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives:	
Freight .....	1
Mixed service .....	3
Total locomotives owned and in service .....	4
Cars in passenger service:	
First-class cars .....	2
Second-class cars .....	2
Combination cars .....	2
Other cars in passenger service .....	1
Total .....	7
Cars in freight service:	
Box cars .....	11
Flat cars .....	6
Stock cars .....	20
Total .....	37
Cars in company's service:	
Derrick cars .....	1
Caboose cars .....	1
Other road cars (dump 10, living 4) .....	14
Hand cars 4, push 3, snowplows 2 .....	9
Total .....	25
Total cars owned and in service .....	69

Rolling stock is equipped with neither train brakes nor automatic couplers.

## NEW TIES LAID DURING YEAR.

There were 18,809 soft pine ties laid during the year; average price at distributing point, 20.5 cents.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Soft Wood— Cords.	Total Fuel Consumed— Tons.	Miles Run.	Average Lbs. Consumed per Mile.
Passenger and freight .....	340.23	772.38	726.47	53,070	27.377
Switching .....	22.14	50.25	47.26	3,245	29.189
Construction .....		293.37	146.69	4,630	63.366
Totals .....	362.42	1,116.00	920.42	60,945	30.204

Average cost at distributing point: Coal, per ton, \$7 78.8; wood, per cord, \$3 38.2.

## CHARACTERISTICS OF ROAD.

Reno, Nevada, to Amedee, California: Length, 79 miles; number of curves, 284; aggregate length of curved line, 21.70 miles; length of straight line, 57.30 miles; length of level line, 18.86 miles; number of ascending grades, 11; sum of ascents, 1,176 feet; aggregate length of ascending grades, 11.84 miles; number of descending grades, 15; sum of descents, 1,672 feet; aggregate length of descending grades, 48.30 miles.

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Trestles:				
Cattle guards .....	41	271 feet.	6 feet.	10 feet.
Irrigating ditch .....	4	29 feet.	7 feet.	10 feet.
Single span W. P. ....	27	265 feet.	6 feet.	18 feet.
Second span T. ....	25	2,544 feet.	24 feet.	552 feet.

Gauge of track, 3 feet; length, 79 miles.

There are no truss bridges on the road, no tunnels, and no telegraph.

## CAR MILEAGE.

Only Nevada-California-Oregon Railway cars are used.

STATE OF NEVADA, }  
County of Washoe. } ss.

We, the undersigned, Erasmus Gest, Vice-President, and Frank R. Lewis, Secretary and Auditor, of the Nevada-California-Oregon Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

ERASMUS GEST,

Vice-President.

F. R. LEWIS,

Secretary, Cashier, and Auditor.

Subscribed and sworn to before me, this 26th day of August, 1896.

HENRY B. RULE,

Notary Public in and for Washoe County, Nevada.

## EEL RIVER &amp; EUREKA RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Eel River & Eureka Railroad Company.
2. Date of organization: November 14, 1882.
3. Under what laws organized: Laws of the State of California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
John M. Vance .....	Eureka, Cal.
William Carson .....	Eureka, Cal.
E. P. Vance .....	Salmon Creek, Cal.
John Dolbeer .....	San Francisco, Cal.
J. N. Gillett .....	Eureka, Cal.
C. L. Rose .....	South Bay, Cal.
H. H. Buhne, Jr. ....	Eureka, Cal.

Date of expiration of terms of Directors: January 12, 1895.

Total number of stockholders at date of last election: 7.

Date of last meeting of stockholders for election of Directors: January 14, 1896.

Post Office address of general and operating office: Eureka, Cal.

Name and address of the officer to whom correspondence regarding this report should be addressed: T. R. Lever, Secretary, Eureka, Cal.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board and President	John M. Vance	Eureka, Cal.
Vice-President	William Carson	Eureka, Cal.
Secretary	T. R. Lever	Eureka, Cal.
Treasurer	Humboldt County Bank	Eureka, Cal.
Auditors	J. N. Gillett, H. H. Buhne, and E. P. Vance	Eureka, Cal.
General Manager	John M. Vance	Eureka, Cal.
General Superintendent	C. L. Rose	South Bay.
General Ticket Agent	T. R. Lever	Eureka, Cal.
General Baggage Agent	A. G. Painter	Eureka, Cal.

## PROPERTY OPERATED.

The Eel River & Eureka Railroad is operated by main line from Eureka to Burnells, a distance of 25 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$1,200,000, divided into 12,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$480,000. No dividends were declared.

Manner of payment for capital stock: Issued for cash, 4,800 shares; amount realized, \$480,000.

## FUNDED DEBT.

On October 1, 1883, and on October 1, 1894, first mortgage bonds to the amount of \$600,000 were authorized to be issued. The amount issued is \$488,000; cash realized, \$487,700; amount outstanding, \$478,000. These bonds bear 6 per cent and 5 per cent interest, payable April 1st and October 1st. There accrued during the year interest to the amount of \$25,910, which amount was paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds	\$488,000 00	\$478,000 00

Interest accrued during year, \$25,910; interest paid during year, \$25,910.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash	\$17,058 35	Audited vouchers and accounts, and wages and salaries	\$4,942 36
Due from agents	4,224 22	Matured interest coupons unpaid	6,352 50
		Total current liabilities	\$11,294 86
		Balance—cash assets	9,987 71
Total	\$21,282 57	Total	\$21,282 57

Materials and supplies on hand, \$3,874 12.

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock.....	\$480,000 00	\$480,000 00	25	\$19,200 00
Bonds.....	478,000 00	478,000 00		19,120 00
Current liabilities.....	11,294 86	11,294 86		451 80
Totals.....	\$969,294 86	\$969,294 86	25	\$38,771 80

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.	Miles.	Amount per Mile of Line.
Eel River & Eureka R. R. ....	\$480,000 00	\$478,000 00	\$11,294 86	\$969,294 86	25	\$38,771 80

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Charged to Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.
Construction:			
Right of way.....		\$26,150 00	\$26,150 00
Other real estate.....		16,217 94	16,217 94
Fences.....		5,313 80	5,313 80
Grading, and bridge and culvert masonry ..		334,137 46	334,137 46
Bridges and trestles.....		11,137 97	11,137 97
Rails.....		164,013 01	164,013 01
Ties.....		7,906 10	7,906 10
Other superstructure.....	\$233 90	3,067 63	3,301 53
Buildings, furniture, and fixtures.....	2,107 73	36,808 64	38,916 37
Shop machinery and tools.....		2,150 57	2,150 57
Telegraph line.....		1,345 49	1,345 49
Wharfing, etc.....		16,858 72	16,858 72
Sidings and yard extensions.....	5,678 60	525 81	6,204 41
Terminal facilities and elevators.....	736 13		736 13
Other items.....		943 92	943 92
Total construction.....	\$8,756 36	\$626,577 81	\$635,334 17
Equipment:			
Locomotives.....		\$27,567 35	\$27,567 35
Passenger cars.....		23,652 26	23,652 26
Baggage, express, and postal cars.....		221 99	221 99
Freight cars.....		8,515 04	8,515 04
Other cars of all classes.....		23,548 49	23,548 49
Floating equipment.....		5,966 90	5,966 90
Total equipment.....		\$89,472 03	\$89,472 03
Total cost construction, equipment, etc.....			\$724,806 20

Cost per mile: Construction, \$25,413 36; equipment, \$3,578 89; total, \$28,992 25.



## INCOME ACCOUNT.

Gross earnings from operation .....	\$92,317 55	
Less operating expenses .....	42,027 47	
Income from operation .....		\$50,290 08
Deductions from income:		
Interest on funded debt accrued .....	\$25,910 00	
Taxes .....	4,382 70	
Total deductions from income .....		30,292 70
Net income .....		\$19,997 38
Deficit on June 30, 1895 .....		\$239,329 35
Additions for year .....		19,997 38
Deficit on June 30, 1896 .....		\$219,331 97

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Passenger revenue .....	\$25,131 05		
Less repayments .....		\$382 35	
Total passenger revenue .....			\$24,748 70
Mail .....			2,422 24
Express .....			660 00
Extra baggage and storage .....			637 11
Total passenger earnings .....			28,468 05
Freight revenue .....	62,759 66		
Less repayments .....		\$6,689 22	
Total freight earnings .....			56,070 44
Other earnings from operation:			
Wharfage .....	3,497 23		
Telegraph companies .....	61 81		
Rents not otherwise provided for .....	1,533 20		
Other sources .....	763 06		
Ferriage .....	1,923 76		
Total other earnings .....			7,779 06
Total gross earnings from operation .....			\$92,317 55

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$6,096 40
Repairs and renewals of bridges and culverts .....	1 93
Repairs and renewals of fences, road crossings, signs, and cattle guards ..	337 53
Repairs and renewals of buildings and fixtures .....	272 23
Repairs and renewals of docks and wharves .....	168 14
Other expenses .....	576 40
Total .....	\$7,452 63
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$446 39
Repairs and renewals of passenger cars .....	179 33
Repairs and renewals of freight cars .....	104 95
Repairs and renewals of shop machinery and tools .....	259 38
Other expenses .....	360 64
Total .....	\$1,350 69
Conducting transportation:	
Fuel for locomotives .....	\$1,245 25
Water supply for locomotives .....	100 00
Oil, tallow, and waste for locomotives .....	181 97
Train service .....	8,545 29
Train supplies and expenses .....	692 15
Switchmen, flagmen, and watchmen .....	558 55
Telegraph expenses .....	693 03
Station service .....	8,535 21
Station supplies .....	570 16
Loss and damage .....	51 50
Operating marine equipment .....	1,530 42
Rents of buildings and other property .....	163 18
Stationery and printing .....	442 81
Other expenses .....	2,857 49
Total .....	\$26,167 01
General expenses:	
Salaries of general officers .....	\$4,500 00
Law expenses .....	1,902 20
Other expenses .....	649 94
Total .....	\$7,057 14
Recapitulation of expenses:	
Maintenance of way and structures .....	\$7,452 63
Maintenance of equipment .....	1,350 69
Conducting transportation .....	26,167 01
General expenses .....	7,057 14
Grand total .....	\$42,027 47
Percentage of operating expenses to earnings .....	45.52

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.
\$626,577 81	Cost of road .....	\$635,334 17	\$8,756 36
89,472 03	Cost of equipment .....	89,472 03	
	Cash and current assets .....	21,282 57	
	Materials and supplies .....	3,874 12	
	Profit and loss .....	219,331 97	
	Total .....	\$969,294 86	
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Decrease.
\$480,000 00	Capital stock .....	\$480,000 00	
488,000 00	Funded debt .....	478,000 00	\$10,000 00
	Current liabilities .....	11,294 86	
	Total .....	\$969,294 86	

## CONTRACTS, AGREEMENTS, ETC.

Agreement with Wells, Fargo & Co. to transport express and treasure boxes from Eureka to Burnells.

Agreement with U. S. Post Office Department to carry mails from Eureka to Burnells.

Contract with Pacific Lumber Co. to transport lumber from Alton Junction to South Bay Station, at \$1 per 1,000 feet, board measure.

Contract with Eel River Valley Lumber Co. to transport lumber from Fortuna Junction to South Bay Station, at \$1 37½ per 1,000 feet, board measure, including wharfage.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Mortgage per Mile of Line.
First mortgage .....	Eureka to Burnells .....	25	\$19,120 00

All equipment is mortgaged.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Number of Days Worked.	Total Yearly Compensation.	Average Daily Compensation.
General officers .....	3	1,095	\$4,500 00	\$4 11
General office clerks .....	1	365	720 00	1 97
Station agents .....	10	3,650	7,300 00	2 00
Other station men .....	1	312	624 00	2 00
Enginemen .....	2	730	2,190 00	3 00
Firemen .....	2	730	1,314 00	1 80
Conductors .....	2	730	2,044 00	2 80
Other trainmen .....	6	1,584	3,564 00	2 25
Carpenters .....	1	290	725 00	2 50
Section foremen .....	2	600	1,350 00	2 25
Other trackmen .....	11	2,640	5,680 00	2 00
Switchmen, flagmen, and watchmen .....	3	1,095	2,190 00	2 00
Employés—account floating equipment .....	2	545	1,226 25	2 25
All other employés and laborers .....	4	302	603 82	2 00
Total (including general officers) .....	50	14,668	\$34,031 07	-----
Less general officers .....	3	1,095	4,500 00	-----
Total (excluding general officers) .....	47	13,573	\$29,531 07	-----
Distribution of above:				
General administration .....	3	1,095	4,500 00	4 11
Maintenance of way and structures .....	12	3,530	7,435 00	2 16
Maintenance of equipment .....	2	445	1,101 00	2 47
Conducting transportation .....	33	9,598	20,995 07	2 18
Total (including general officers) .....	50	14,668	\$34,031 07	2 32
Less general officers .....	3	1,095	4,500 00	-----
Total (excluding general officers) .....	47	13,573	\$29,531 07	-----

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue	32,811	
Number of passengers carried one mile	590,598	
Number of passengers carried one mile per mile of road	820,275	
Average distance carried—miles	18	
Total passenger revenue		\$24,748 70
Average amount received from each passenger		75.4
Average receipts per passenger per mile		04.19
Total passenger earnings		28,468 05
Passenger earnings per mile of road		1,138 72
Passenger earnings per train mile		52.1
Freight traffic:		
Number of tons carried of freight earning revenue	71,843	
Number of tons carried one mile—miles	1,293,117	
Number of tons carried one mile per mile of road	2,873,720	
Average distance haul of one ton	18	
Total freight revenue		56,070 44
Average amount received for each ton of freight		78.04
Average receipts per ton per mile		04.33
Total freight earnings		56,070 44
Freight earnings per mile of road		2,242 80
Freight earnings per train mile		1 02.5
Passenger and freight:		
Passenger and freight revenue		80,819 14
Passenger and freight revenue per mile of road		3,232 76
Passenger and freight earnings		84,538 49
Passenger and freight earnings per mile of road		3,381 54
Gross earnings from operation		92,512 55
Gross earnings from operation per mile of road		3,692 70
Gross earnings from operation per train mile		1 90.7
Operating expenses		42,027 47
Operating expenses per mile of road		1,681 10
Operating expenses per train mile		76.9
Income from operation		19,997 38
Income from operation per mile of road		799 89
Train mileage:		
Miles run by mixed trains	54,600	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.
Products of agriculture:	
Grain	780
Hay	896
Fruit and vegetables	1,350
Products of animals:	
Live stock	33
Poultry, game, and fish	926
Wool	207
Butter	2,986
Products of mines:	
Stone, sand, and other like articles	132
Products of forest:	
Lumber (board measure)	17,363,150 feet.
Shingles	113,319,350 M.
Shakes	6,019,693 M.
Wood	210
Manufactures:	
Castings and machinery	1,769
Merchandise	5,143
Miscellaneous: Other commodities not mentioned above	2,978
Total	71,843



## DESCRIPTION OF EQUIPMENT.

Item.	Total at End of Year.
Locomotives:	
Passenger .....	1
Freight .....	1
Switching .....	1
Total .....	3
Cars in passenger service:	
First-class cars .....	3
Second-class cars .....	4
Combination cars .....	2
Total .....	9
Cars in freight service:	
Box cars .....	10
Flat cars .....	28
Total .....	38
Cars in company's service:	
Lumber cars .....	100
Total cars in service .....	147
Less cars belonging to lumber companies .....	100
Total cars owned .....	47

All rolling stock equipped with ordinary hand brake and link coupler.

## MILEAGE OF ROAD OPERATED.

Length of single track, 25 miles; length of yard track, sidings, and spurs, 5 miles; aggregate length of all tracks, 30 miles.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

In running 54,600 miles, locomotives of mixed trains consumed 1,440 cords of wood, or 720 tons of fuel. Average pounds consumed per mile, 26.37; average cost at distributing point, \$3 25 per cord.

## CHARACTERISTICS OF ROAD.

From Eureka to Burnells, 25 miles; number of curves, 52; aggregate length of curved line, 5.405 miles; length of straight line, 19.594 miles; length of level line, 8.742 miles; number of ascending grades, 12; sum of ascents, 208 feet; aggregate length of ascending grades, 11.930 miles; number of descending grades, 24; sum of descents, 90 feet; aggregate length of descending grades, 4.327 miles.

## BRIDGES, TRETTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.
Bridges:		
Wooden .....	1	60 feet.
Combination .....	1	60 feet.
Total .....	2	
Trestles .....	3	1,873 feet.
Tunnels .....	1	1,945 feet.

Overhead railway crossings: Trestles, 2; height above surface of rail, 22 feet.

Gauge of track: 4 feet 8½ inches.

Telegraph owned and operated by company making this report: 25 miles of line; 25 miles of wire.

STATE OF CALIFORNIA, }  
County of Humboldt. } ss.

We, the undersigned, John M. Vance, President, and T. R. Lever, Secretary, of the Eel River & Eureka Railroad Company, on our oath, do severally say that the foregoing return has been prepared under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JOHN M. VANCE,  
President.  
T. R. LEVER,  
Secretary.

Subscribed and sworn to before me, this 25th day of July, 1896.

G. R. GEORGESON,  
Notary Public.

## NEVADA COUNTY NARROW GAUGE RAILROAD COMPANY.

### HISTORY.

1. Name of common carrier making this report: Nevada County Narrow Gauge Railroad Company.
2. Date of organization: April 4, 1874.
3. Under laws of what Government, State, or Territory organized: State of California.
4. Names of constituent companies: Not a consolidated company.

### ORGANIZATION.

Names of Directors.	Post Office Address.
John F. Kidder.....	Grass Valley.
Peter Johnston.....	Grass Valley.
Edward H. Brown.....	Grass Valley.
George Fletcher.....	Grass Valley.
George D. McLean.....	Grass Valley.
Frank G. Beatty.....	Berkeley.
A. H. Parker.....	Nevada City.

Date of expiration of terms of Directors: April 6, 1897.

Number of stockholders at date of last election: 96.

Last meeting of stockholders for election of Directors: April 1, 1896.

Post Office address of general and operating offices: Grass Valley, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: George Fletcher, Secretary, Grass Valley, Cal.

### OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President.....	John F. Kidder.....	Grass Valley.
Vice-President.....	Peter Johnston.....	Grass Valley.
Secretary.....	George Fletcher.....	Grass Valley.
Treasurer.....	Edward H. Brown.....	Grass Valley.
Auditor.....	George Fletcher.....	Grass Valley.
General Manager.....	John F. Kidder.....	Grass Valley.
General Superintendent.....	Edward H. Brown.....	Grass Valley.
General Freight, Passenger, Ticket, and Baggage Agent.....	George Fletcher.....	Grass Valley.

## PROPERTY OPERATED.

The Nevada County Narrow Gauge Railroad is operated by main line from Colfax, a station on the Central Pacific Railroad, in Placer County, to Nevada City, in Nevada County, a distance of 22.50 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$400,000, divided into 4,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$250,200. No dividends were declared.

Manner of payment for capital stock: Number of shares issued in 1896, 80; cash realized thereon, \$8,000. Total number of shares issued and outstanding, 2,502; total cash realized, \$250,850. The original issue was 2,440 shares, at full par value; \$650 was all that was received on 18 shares; at delinquent sale the stock was bought in by company, the \$650 being put to profit and loss account.

## FUNDED DEBT.

Class of Bond or Obligation.	Amount of Authorized Issue.	Amount Issued.	Amount Outstanding.	Cash Realized on Amount Issued.
First mortgage bonds (new issue) on the whole property of the company, Jan. 7, 1896 .....	\$250,000 00	\$250,000 00	\$250,000 00	\$239,130 00

Dates when bonds are due: January 7, 1900, 4 bonds; 1901, 4 bonds; 1902, 4 bonds; 1903, 4 bonds; 1904, 4 bonds; 1905, 5 bonds; 1906, 6 bonds; 1907, 6 bonds; 1908, 7 bonds; 1909, 8 bonds; 1910, 9 bonds; 1911, 9 bonds; 1912, 9 bonds; 1913, 9 bonds; 1914, 10 bonds; 1915, 11 bonds; 1916, 12 bonds; 1917, 13 bonds; 1918, 13 bonds; 1919, 14 bonds; 1920, 16 bonds; 1921, 16 bonds; 1922, 18 bonds; 1923, 19 bonds; 1924, 20 bonds. Total issue, 250 bonds.

These bonds bear 7 per cent interest, payable in January (7th) and July. Interest accrued during year, \$20,295 23, all of which was paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.	Interest Accrued During Year.	Interest Paid During Year.
Mortgage bonds .....	\$250,000 00	\$250,000 00	\$20,295 23	\$20,295 23

## CURRENT ASSETS AND LIABILITIES.

Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Bills receivable .....	\$6,800 00	Loans and bills payable .....	\$5,804 52
Due from agents .....	3,762 57	Audited vouchers and accounts .....	1,511 82
Due from solvent companies and individuals .....	775 76	Wages and salaries .....	3,797 83
Total current assets .....	\$11,338 33	Matured interest coupons unpaid .....	8,750 00
Balance—current liabilities .....	8,525 84		
Total .....	\$19,864 17	Total .....	\$19,864 17

Materials and supplies on hand, \$8,966 65.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$250,200 00	\$250,200 00	22.50	\$11,120 00
Bonds .....	250,000 00	250,000 00		11,111 11
Current liabilities .....	19,864 17	19,864 17		882 85
Totals .....	\$520,064 17	\$520,064 17	22.50	\$23,113 96

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.	Miles.	Amount per Mile of Line.
Nevada County N. G. Railroad-----	\$250,200 00	\$250,000 00	\$19,864 17	\$520,064 17	22.50	\$23,113 96

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Charged to Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost per Mile.
Construction:				
Right of way and other real estate-----	\$75 00	\$30,334 67	\$30,409 67	\$1,351 53
Grading, and bridge and culvert masonry-----		245,024 88	245,024 88	10,889 99
Bridges and trestles-----		48,235 37	48,235 37	2,143 79
Rails and ties-----		164,285 09	164,285 09	7,301 56
Buildings, furniture, fixtures, shop machinery, and tools-----		38,434 91	38,434 91	1,708 21
Engineering expenses-----	799 50	12,901 32	13,900 82	608 93
Other items-----		13,885 05	13,885 05	617 11
Total construction-----	\$874 50	\$553,101 29	\$553,975 79	\$24,621 12
Equipment:				
Locomotives-----		\$27,904 28	\$27,904 28	\$1,240 19
Passenger cars-----		9,404 42	9,404 42	417 97
Combination cars-----		6,216 76	6,216 76	276 30
Freight cars-----		31,334 22	31,334 22	1,392 63
Other cars of all classes-----		1,445 54	1,445 54	64 25
Total equipment-----		\$76,305 22	\$76,305 22	\$3,391 34
Total cost construction, equipment, etc.-----	\$874 50	\$629,406 51	\$630,281 01	\$28,012 46

## INCOME ACCOUNT.

Gross earnings from operation-----	\$105,840 12	
Less operating expenses-----	73,466 64	
Total income-----		\$32,373 48
Deductions from income:		
Interest on funded debt accrued-----	\$20,295 23	
Interest on interest-bearing current liabilities accrued, not otherwise provided for-----	386 65	
Taxes-----	3,187 78	
Other deductions-----	10,870 00	
Total deductions from income-----		34,739 66
Deficit-----		\$2,366 18
Deficit from operations of year ending June 30, 1896-----		\$2,366 18
Surplus on June 30, 1895-----		132,888 00
Surplus on June 30, 1896-----		\$130,521 82



## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Passenger revenue .....	\$32,972 06
Mail .....	1,863 56
Express .....	3,032 69
Extra baggage and storage .....	1,005 23
Total passenger earnings .....	\$38,873 59
Freight revenue .....	\$62,514 90
Other items .....	4,451 63
Total freight earnings .....	\$66,966 53
Total gross earnings from operation .....	\$105,840 12

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway, rails, and ties .....	\$18,571 47
Repairs and renewals of bridges and culverts .....	1,575 03
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	183 67
Repairs and renewals of buildings and fixtures .....	518 82
Repairs of tunnels .....	2,220 59
Total .....	\$23,069 58
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$4,226 58
Repairs and renewals of passenger cars .....	2,196 16
Repairs and renewals of freight cars .....	2,567 13
Repairs and renewals of work cars .....	38 40
Repairs and renewals of shop machinery and tools .....	86 13
Total .....	\$9,114 40
Conducting transportation:	
Engine and roundhouse men .....	\$6,409 96
Fuel for locomotives .....	9,300 00
Water supply for locomotives .....	484 00
Oil, tallow, and waste for locomotives .....	248 00
Train service .....	4,994 31
Train supplies and expenses .....	300 49
Switchmen, flagmen, and watchmen .....	720 00
Station service .....	8,300 29
Station supplies .....	530 20
Loss and damage .....	69 42
Advertising .....	731 05
Stationery and printing .....	351 80
Total .....	\$32,439 52
General expenses:	
Salaries of general officers .....	\$6,000 00
Salaries of clerks and attendants .....	346 00
General office expenses and supplies .....	126 00
Insurance .....	597 65
Law expenses .....	523 60
Stationery and printing (general offices) .....	220 09
Other expenses .....	1,029 80
Total .....	\$8,843 14
Recapitulation of expenses:	
Maintenance of way and structures .....	\$23,069 58
Maintenance of equipment .....	9,114 40
Conducting transportation .....	32,439 52
General expenses .....	8,843 14
Grand total .....	\$73,466 64

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$553,101 29	Cost of road .....	\$553,975 79	\$874 50	
76,305 22	Cost of equipment .....	76,305 22		
3,956 81	Cash and current assets .....	11,338 33	7,381 52	
18,104 92	Materials and supplies .....	8,966 65		\$9,138 27
\$651,468 24	Totals .....	\$650,585 99	\$8,256 02	\$9,138 27
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$242,000 00	Capital stock .....	\$250,200 00	\$8,000 00	
256,000 00	Funded debt .....	250,000 00		\$6,000 00
20,380 24	Current liabilities .....	19,864 17		516 07
132,888 00	Profit and loss .....	130,521 82		
\$651,468 24	Totals .....	\$650,585 99	\$8,000 00	\$6,516 07

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount of Mortgage per Mile of Line.
First mortgage bonds .....	Colfax to Nevada City .....	22.50	\$11,111 11

The whole property of the road is mortgaged.

## EMPLOYEES AND SALARIES.

Class.	Number.	Number of Days Worked.	Total Yearly Com- pensation.	Average Daily Com- pensation.
General officers .....	4	1,043	\$6,000 00	\$5 75
General office clerks .....	1	313	290 00	92
Station agents .....	3	1,095	3,540 00	3 23
Other station men .....	7	1,856	3,525 40	1 90
Enginemen .....	2	730	2,920 00	4 00
Firemen .....	2	730	1,825 00	2 50
Conductors .....	2	730	2,640 00	3 62
Other trainmen .....	6	1,652	3,705 00	2 24
Machinists .....	1	302	1,132 50	3 75
Carpenters .....	1	260	1,040 00	4 00
Other shopmen .....	5	1,508	4,861 80	3 10
Section foremen .....	2	613	1,655 10	2 70
Other trackmen .....	23	6,492	11,411 40	1 77
Switchmen, flagmen, and watchmen .....	3	1,032	1,439 04	1 39
All other employes and laborers .....	1	340	340 00	1 00
Totals (including general officers) .....	63	18,756	\$46,325 24	\$2 47
Less general officers .....	4	1,043	6,000 00	
Totals (excluding general officers) .....	59	17,713	\$40,325 24	\$2 27
Distribution of above:				
General administration .....	5	1,356	\$6,290 00	\$4 64
Maintenance of way and structures .....	28	8,137	14,505 54	1 78
Maintenance of equipment .....	7	2,130	7,034 30	3 30
Conducting transportation .....	23	7,133	18,495 40	2 59
Totals (including general officers) .....	63	18,756	\$46,325 24	\$2 47
Less general officers .....	4	1,043	6,000 00	
Totals (excluding general officers) .....	59	17,713	\$40,325 24	\$2 27

Vice-President receives no compensation.

## IMPORTANT CHANGES DURING THE YEAR.

The old 8 per cent bonds, of which \$256,000 were due on January 1, 1896, were all paid, and a new issue of \$250,000, 7 per cent first mortgage bonds was made.

## CONTRACTS, AGREEMENTS, ETC.

Agreement with Wells, Fargo & Co.'s Express for transportation of general merchandise by passenger train at double first-class rates; fruit, fish, butter, vegetables, and ice at one and one half times first-class rates. Fare of messenger, \$75 per month.

United States mail contract, under laws for regulation of railway mail service, at \$80 37 per mile of road.

Agreement with Western Union Telegraph Company giving them right of way for poles and wire on road, with free transportation of material and employes to repair lines. The railroad company having use of line free between offices on road and for railroad business to all points.

Agreement with Southern Pacific Company to conduct station business at Colfax for the sum of \$200 per month.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	49,450	
Number of passengers carried one mile .....	473,750	
Number of passengers carried one mile per mile of road .....	21,055	
Average distance carried—miles .....	9.58	
Total passenger revenue .....		\$32,972 06
Average amount received from each passenger .....		66.879
Average receipts per passenger per mile .....		6.960
Total passenger earnings .....		38,873 59
Passenger earnings per mile of road .....		1,727 71.511
Passenger earnings per train mile .....		1 69.814
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	26,464	
Number of tons carried one mile .....	521,538	
Number of tons carried one mile per mile of road .....	23,157	
Average distance haul of one ton—miles .....	19.7	
Total freight revenue .....		62,514 90
Average amount received for each ton of freight .....		2 35.848
Average receipts per ton per mile .....		11.986
Total freight earnings .....		66,966 53
Freight earnings per mile of road .....		2,976 29.02
Freight earnings per train mile .....		1 32.684
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		95,486 96
Passenger and freight revenue per mile of road .....		4,243 86.49
Passenger and freight earnings .....		105,840 12
Passenger and freight earnings per mile of road .....		4,704 00.53
Gross earnings from operation .....		105,840 12
Gross earnings from operation per mile of road .....		4,704 00.53
Gross earnings from operation per train mile .....		1 42.785
Operating expenses .....		73,466 64
Operating expenses per mile of road .....		3,265 18.04
Operating expenses per train mile .....		96.937
Income from operation .....		32,373 48
Income from operation per mile of road .....		1,438 82.13
<b>Train mileage:</b>		
Miles run by passenger trains .....	7,512	
Miles run by mixed trains .....	67,244	
Total mileage trains earning revenue .....	74,756	
Average number of freight cars in train .....	4	
Average number of loaded cars in train .....	2	
Average number of empty cars in train .....	2	
Average number of tons of freight in train .....	13	
Average number of tons of freight in each loaded car .....	6½	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.	Received From Connecting Roads— Tons.	Total Freight Tonnage.	Per Cent.
Products of agriculture:				
Grain, flour, and other mill products.....		5,119	5,119	19.34
Hay.....	19	1,614	1,633	6.17
Fruit and vegetables.....	236	285	521	1.97
Products of animals:				
Live stock.....	14	85	99	.38
Hides and leather.....	162		162	.61
Products of mines:				
Bituminous coal and coke.....		360	360	1.36
Ores.....	2,840	27	2,867	10.83
Products of forest:				
Lumber.....	483	3,557	4,040	15.27
Wood.....	1,030		1,030	3.90
Manufactures:				
Petroleum and other oils.....		760	760	2.87
Powder.....		308	308	1.16
Iron, pig and bloom.....		284	284	1.07
Castings and machinery.....	75	513	588	2.22
Merchandise.....	522	8,171	8,693	32.85
Total tonnage.....	5,381	21,083	26,464	100.00

## DESCRIPTION OF EQUIPMENT.

Item.	Total Owned.
Locomotives:	
Passenger.....	2
Freight.....	1
Total locomotives.....	3
Cars in passenger service:	
First-class passenger cars.....	2
Combination passenger cars.....	2
Other cars in passenger service.....	1
Total.....	5
Cars in freight service:	
Box cars.....	21
Flat cars.....	28
Total.....	49
Cars in company's service.....	4
Total cars owned.....	58

The Westinghouse air-brake is used on locomotives and on cars in passenger service.

## MILEAGE OF ROAD OPERATED.

Line in Use.	Total Mileage Operated.	Iron Rails.	Steel Rails.
Miles of single track.....	22.50	12.50	10
Miles of yard track and sidings.....	4.00	4.00	-----
Total mileage operated (all tracks).....	26.50	16.50	10

This line is all in California, and all represented by capital stock.



## NEW TIES LAID DURING YEAR.

About 7,000 cedar ties were laid during the year; average price at distributing point, 36 cents.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

The locomotives, in running 74,756 miles, consumed 2,657 cords of soft wood. Total fuel consumed, 5,314 tons; pounds consumed per mile (average), 143.

## CHARACTERISTICS OF ROAD.

Colfax to Nevada City: Length, 22.50 miles: aggregate length of curved line, 12.26 miles; length of straight line, 10.24 miles; length of level line,  $\frac{88}{100}$  of a mile; number of ascending grades, 8; sum of ascents, 1,158 feet; aggregate length of ascending grades, 12.16 miles; number of descending grades, 7; sum of descents, 1,049 feet; aggregate length of descending grades, 9.66 miles.

## BRIDGES, TRETTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges—Combination.....	2	320 feet.	160 feet.	160 feet.
Trestles.....	5	5,176 feet.	-----	-----
Tunnels.....	2	810 feet.	390 feet.	420 feet.

Overhead highway crossings—Bridges, 1; height above surface of rail, 16 feet.

Overhead railway crossings—Bridges, 1; height above surface of rail, 120 feet.

Tunnels, 2; height above surface of rail, 14 feet.

Gauge of track, 3 feet; length, 22.50 miles.

## TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
17	17	Western Union Telegraph Co.....	----- Western Union Telegraph Co.

STATE OF CALIFORNIA, }  
County of Nevada. } ss.

We, the undersigned, John F. Kidder, President, and George Fletcher, Secretary, of the Nevada County Narrow Gauge Railroad Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JOHN F. KIDDER,  
President.  
GEORGE FLETCHER,  
Secretary

Subscribed and sworn to before me, this 10th day of October, 1896.

J. M. THOMAS,  
Notary Public in and for Nevada County, California.

## NATIONAL CITY &amp; OTAY RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: National City & Otay Railway Company.
2. Date of organization: December 28, 1886.
3. Under laws of what Government, State, or Territory organized: Laws of California.
4. Names of constituent companies: National City & Otay Railway Company, incorporated December 28, 1886; articles of incorporation filed January 13, 1887. Otay Railway Company, incorporated September 28, 1887; articles of incorporation filed October 10, 1887. Copy articles of association, incorporation, amalgamation, and consolidation filed with Secretary of State October 12, 1888. Certificate of issuance of capital stock filed with Secretary of State January 5, 1889.
5. Date and authority for each consolidation: October 1, 1888; State of California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
B. P. Cheney .....	Boston.
W. L. Frost .....	Boston.
C. O. Shattuck .....	Boston.
J. E. Boal .....	National City, Cal.
C. B. Whittehay .....	National City, Cal.
R. C. Allen .....	National City, Cal.
W. C. Kimball .....	National City, Cal.

Date of expiration of terms of Directors: Second Tuesday in May, 1897, or in lieu until successors are elected and qualified.

Number of stockholders at date of last election: 8.

Last meeting of stockholders for election of Directors: June 10, 1896.

Post Office address of general office: Boston.

Post Office address of operating office: National City.

Name and address of officer to whom correspondence regarding this report should be addressed: E. A. Hornbeck, Superintendent, National City, Cal.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	B. P. Cheney .....	Boston, Mass.
Vice-President .....	Jno. E. Boal .....	National City, Cal.
Secretary, Superintendent, and Asst. Treasurer ..	E. A. Hornbeck .....	National City, Cal.
Treasurer and Assistant Secretary .....	C. D. Lanning .....	Boston, Mass.
Attorney, or General Counsel .....	Works & Works .....	San Diego, Cal.

The duties of Auditor, General Freight Agent, and General Ticket Agent are performed by the Superintendent.

## PROPERTY OPERATED.

Name.	Terminals.	Miles of Line.
National City & Otay Railway .....	San Diego to Tia Juana .....	18.66
	Sweetwater Junction to La Presa .....	7.80
Total .....		26.46

## CAPITAL STOCK.

The total par value of authorized capital stock is \$1,300,000, divided into 13,000 shares of a par value of \$100 each. Total amount issued and outstanding, \$200,000. No dividends were declared.

## FUNDED DEBT.

Class of Bond or Obligation.	Date of Issue.	When Due.	Amount Issued.
First mortgage 6 per cent gold bonds.....	Dec. 1, 1888..	Dec. 1, 1933..	\$451,000 00

These bonds bear interest at 6 per cent, payable June 1st and December 1st, of each year.

## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Total passenger revenue.....	\$14,538 15
Mail.....	1,208 05
Total passenger earnings.....	\$15,746 20
Total freight earnings.....	15,262 05
Total gross earnings from operation.....	\$31,008 25
Total passenger earnings.....	\$14,538 15
Total freight earnings.....	15,262 05
Total mail earnings.....	1,208 05
	\$31,008 25
Less total expenses.....	28,751 64
Net earnings.....	\$2,256 61

During year heavy washout repairs and improvements have been made and charged to operating expenses.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried one mile.....	97,099	
Total passenger revenue.....		\$15,746 20
Freight traffic: Total freight revenue.....		15,262 05
Train mileage:		
Miles run by passenger trains.....	27,088.32	
Miles run by freight trains.....	1,850.95	
Miles run by mixed trains.....	14,617.12	
Total mileage trains earning revenue.....	43,556.39	

## DESCRIPTION OF EQUIPMENT.

Item.	Total Number at End of Year.
Locomotives:	
Passenger .....	5
Freight .....	1
Total .....	6
Cars in passenger service:	
First-class cars .....	7
Combination cars .....	2
Baggage, express, and postal cars .....	1
Total .....	10
Cars in freight service:	
Box cars .....	4
Flat cars .....	31
Total .....	35
Total cars owned and in service .....	45

Locomotives are equipped with steam brake.

## MILEAGE OF ROAD OPERATED.

Line in Use.	Main Line.	Branches and Spurs.	Total Mileage Operated.	Steel Rails.
Miles of single track .....	18.66	7.80	26.46	26.46

All in California.

STATE OF CALIFORNIA, )  
County of San Diego. } ss.

We, the undersigned, John E. Boal, Vice-President, and E. A. Hornbeck, Secretary and Assistant Treasurer, of the National City & Otay Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JOHN E. BOAL,  
Vice-President.  
E. A. HORNBECK,  
Secretary and Assistant Treasurer.

Subscribed and sworn to before me, this 7th day of October, 1896.

GEORGE W. BEERMAKER,  
Notary Public in and for San Diego County, California.



## LOS ANGELES &amp; REDONDO RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: Los Angeles & Redondo Railway Company.
2. Date of organization: April 1, 1889.
3. Under laws of what Government, State, or Territory organized: California.
4. If a consolidated company, name the constituent companies: Not a consolidated company.
6. If a reorganized company, give name of original corporation, and refer to laws under which it was organized: Not a reorganized company.

## ORGANIZATION.

Names of Directors.	Post Office Address.
L. T. Garnsey .....	Los Angeles.
Percy T. Morgan .....	San Francisco.
J. C. Ainsworth .....	Portland, Oregon.
H. B. Ainsworth .....	Redondo Beach.
W. A. Botsford .....	Los Angeles.

Date of expiration of terms of Directors: February 17, 1897.

Total number of stockholders at date of last election: 7.

Last meeting of stockholders for election of Directors: February 29, 1896.

Post Office address of general and operating offices: Redondo.

Name and address of officer to whom correspondence regarding this report should be addressed: H. B. Ainsworth, Secretary, Redondo.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President.	L. T. Garnsey .....	Los Angeles.
Vice-President.	Percy T. Morgan .....	San Francisco.
Secretary and Treasurer .....	H. B. Ainsworth .....	Redondo.
Attorney, or General Counsel.	Sheldon Borden .....	Los Angeles.
Auditor.	H. B. Ainsworth .....	Redondo.
General Superintendent .....	L. J. Perry .....	Redondo.
General Freight Agent .....	John T. Farmer .....	Los Angeles.

## PROPERTY OPERATED.

Name.	Terminals.	Miles of Line.
Los Angeles & Redondo Railway .....	Redondo Beach to Los Angeles...	17.70

This company also owns and operates two wharves in California, doing a wharfage business.

## CAPITAL STOCK.

The total amount of authorized capital stock is \$500,000, divided into 5,000 shares of a par value of \$100 each; total amount issued and outstanding, \$538,700 21. There are no shares outstanding.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash .....	\$3,210 37	Loans and bills payable .....	\$55,000 00
Bills receivable .....	432 47	Audited vouchers and ac-	
Due from agents .....	2,258 27	counts .....	6,972 20
Due from solvent companies and individuals .....	33,245 95	Miscellaneous .....	8 00
Total cash and current assets	\$39,747 06		
Balance—current liabilities...	22,233 14		
Total .....	\$61,980 20	Total .....	\$61,980 20

Materials and supplies on hand, \$5,602 53.

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Amount Outstanding.	Apportionment to Railroads.	Apportionment to Other Properties.	Miles.	Amount per Mile of Line.
Capital stock .....	\$538,700 21	\$418,700 21	\$120,000 00	21	\$19,938 00
Current liabilities.....	61,913 36	35,149 13	26,764 23	-----	1,674 00
Totals .....	\$600,613 57	\$453,849 34	\$146,764 23	21	\$21,612 00

Wharfing not included in cost per mile of line.

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Current Liabilities.	Total.	Miles.	Amount per Mile of Line.
Los Angeles & Redondo Ry....	\$538,700 21	\$61,913 36	\$600,613 57	21	\$21,612 00

## INCOME ACCOUNT.

Gross earnings from operation .....	\$64,334 05	
Less operating expenses .....	51,385 74	
Income from operation .....		\$12,948 31
Miscellaneous income—less expenses .....		223 12
Total income .....		\$13,171 43
Deductions from income:		
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	\$1,742 69	
Taxes .....	1,663 00	
Total deductions from income .....		3,405 69
Net income .....		\$9,765 74
Surplus from operations of year ending June 30, 1896 .....		9,765 74
Surplus on June 30, 1896 .....		9,765 74

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Charged to Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost Per Mile.
Construction:				
Right of way		\$24,742 52	\$24,742 52	\$14,227 00
Fences	\$65 49	790 44	855 93	
Grading, and bridge and culvert masonry	75 00	26,487 89	26,562 89	
Bridges and trestles		607 74	607 74	
Rails		100,727 44	100,727 44	
Ties		26,490 19	26,490 19	
Other superstructure	318 76	4,310 04	4,628 80	
Buildings, furniture, and fixtures	352 57	17,428 71	17,781 28	
Shop machinery and tools	23 00	4,194 54	4,217 54	
Telegraph line		3,371 18	3,371 18	
Wharfing, etc.	27,878 18	118,886 05	146,764 23	
Sidings and yard extensions	318 35	6,271 96	6,590 31	
Terminal facilities and elevators		10,000 00	10,000 00	
Purchase of constructed road		25,000 00	25,000 00	
Other items	8 78	230 00	238 78	
Total construction	\$29,040 13	\$369,538 70	\$398,578 83	\$14,227 00
Equipment:				
Locomotives	\$689 58	\$45,983 59	\$46,673 17	\$6,278 00
Passenger cars		33,241 18	33,241 18	
Combination cars		7,497 62	7,497 62	
Freight cars	388 02	22,425 35	22,813 37	
Other cars of all classes		661 44	661 44	
Floating equipment		239 48	200 00	
			39 48	
Total equipment	\$1,077 60	\$110,048 66	\$111,126 26	\$6,278 00
Total cost construction, equipment, etc.	\$30,177 73	\$479,587 36	\$509,705 09	\$20,505 00

Wharfing not included in cost per mile of line.

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions.	Actual Earnings.
Passenger revenue	\$15,766 61		
Tickets redeemed		\$329 18	
Other repayments		630 61	
Total deductions		\$959 79	
Total passenger revenue			\$14,806 82
Mail			390 72
Total passenger earnings			\$15,197 54
Freight revenue	36,131 71		
Less overcharge to shippers		91 14	
Other repayments		5,154 54	
Total deductions		\$5,245 68	
Total freight revenue			30,886 03
Total passenger and freight earnings			\$46,083 57
Other earnings from operation:			
Switching charges—balance			\$1,772 85
Telegraph companies			91 55
Other sources			480 34
Wharfage			15,905 74
Total other earnings			\$18,250 48
Total gross earnings from operation			\$64,334 05

## STOCKS OWNED.

This company owns 300 shares of the Los Angeles Consolidated Electric Railway Company, and bonds of the Redondo Hot Salt Water Bath Company of the value of \$1,800.

## MISCELLANEOUS INCOME.

Old iron, rope, ties, etc., \$223 12.

## OPERATING EXPENSES.

Item	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$6,438 80
Repairs and renewals of buildings and fixtures .....	36 99
Repairs and renewals of docks and wharves .....	2,428 08
Stationery and printing .....	54 57
Other expenses .....	556 41
Total .....	\$9,514 85
Maintenance of equipment:	
Superintendence .....	\$696 00
Repairs and renewals of locomotives .....	4,082 48
Repairs and renewals of passenger cars .....	1,777 35
Repairs and renewals of freight cars .....	621 70
Repairs and renewals of work cars .....	8 26
Repairs and renewals of marine equipment .....	482 35
Repairs and renewals of shop machinery and tools .....	199 90
Stationery and printing .....	81 87
Other expenses .....	556 42
Total .....	\$8,506 33
Conducting transportation:	
Superintendence .....	\$2,000 00
Engine and roundhouse men .....	5,136 40
Fuel for locomotives .....	4,033 24
Water supply for locomotives .....	416 15
Oil, tallow, and waste for locomotives .....	150 67
Other supplies for locomotives .....	153 00
Train service .....	2,974 80
Train supplies and expenses .....	150 70
Switchmen, flagmen, and watchmen .....	1,026 55
Telegraph expenses .....	35 42
Station service .....	6,365 65
Loss and damage .....	10 99
Injuries to persons .....	50 00
Operating marine equipment .....	2,151 12
Advertising .....	669 90
Rents of buildings and other property .....	213 70
Stationery and printing .....	136 44
Other expenses .....	2,225 66
Total .....	\$27,900 39
General expenses:	
Salaries of general officers .....	\$2,453 00
Salaries of clerks and attendants .....	930 50
Insurance .....	285 67
Law expenses .....	409 29
Stationery and printing (general offices) .....	272 88
Other expenses .....	1,112 83
Total .....	\$5,464 17
Recapitulation of expenses:	
Maintenance of way and structures .....	\$9,514 85
Maintenance of equipment .....	8,506 33
Conducting transportation .....	27,900 39
General expenses .....	5,464 17
Grand total .....	\$51,385 74
Percentage of operating expenses to earnings .....	80.00



## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$369,538 70	Cost of road .....	\$398,578 83	\$29,040 13	
110,048 66	Cost of equipment .....	111,086 78	1,038 12	
2,100 00	Stocks owned .....	2,100 00		
52,593 04	Lands owned .....	52,578 04		\$15 00
21,117 54	Cash and current assets .....	39,747 06	18,629 52	
5,254 76	Materials and supplies .....	5,698 36		
4,262 89	Sundries .....	4,472 19	652 90	
\$564,915 59	Totals .....	\$614,261 26	\$49,360 67	\$15 00
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$538,700 21	Capital stock .....	\$538,700 21		
26,215 38	Current liabilities .....	61,980 20		\$35,764 82
	Liabilities not yet due .....	3,815 11		
	Profit and loss .....	9,765 74		
\$564,915 59	Totals .....	\$614,261 26		\$35,764 82

## IMPORTANT CHANGES DURING THE YEAR.

A second wharf built.

## CONTRACTS, AGREEMENTS, ETC.

Contract with United States Post Office department to carry mail between Los Angeles and Redondo Beach.

Agreement with Southern Pacific Co., Southern California Railway Co., Los Angeles Terminal Railway Co., and Pacific Coast Steamship Co. for transportation of through freight from San Francisco to Los Angeles.

Contract with Pacific Postal Telegraph Cable Co., taking their business at Redondo Beach.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Number of Days Worked.	Total Yearly Compensation.	Average Daily Compensation.
General officers .....	4	1,440	\$5,149 00	\$3 57
General office clerks .....	2	720	930 50	1 30
Station agents .....	2	720	1,800 00	2 50
Other station men .....	6	2,160	4,565 65	2 10
Enginemen .....	3	578	1,736 00	3 00
Firemen .....	3	578	1,157 00	2 00
Conductors .....	2	638	1,701 33	2 66.66
Other trainmen .....	2	637	1,273 47	2 00
Machinists .....	2	720	2,040 00	2 83.33
Carpenters .....	1	200	500 00	2 50
Other shopmen .....	4	1,330	2,745 00	2 06
Section foremen .....	2	673	1,664 00	2 47
Other trackmen .....	12	2,334	4,084 85	1 75
Switchmen, flagmen, and watchmen .....	2	513	1,026 55	2 00
All other employés and laborers .....	4	912	2,284 17	2 50
Total (including general officers) .....	51	14,153	\$32,657 52	\$2 31
Less general officers .....	4	1,440	5,149 00	
Total (excluding general officers) .....	47	12,713	\$27,508 52	\$2 16
Distribution of above:				
General administration .....	6	2,160	\$6,079 50	\$2 81
Maintenance of way and structures .....	14	3,007	5,748 85	1 91
Maintenance of equipment .....	11	3,162	7,569 17	2 40
Conducting transportation .....	20	5,824	13,260 00	2 28
Total (including general officers) .....	51	14,153	\$32,657 52	\$2 31
Less general officers .....	4	1,440	5,149 00	
Total (excluding general officers) .....	47	12,713	\$27,508 52	\$2 16

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue	77,382	
Number of passengers carried one mile	928,584	
Number of passengers carried one mile per mile of road	1,369,661	
Average distance carried—miles	12	
Total passenger revenue		\$14,806 82
Average amount received from each passenger		19.13470
Average receipts per passenger per mile		1.59456
Total passenger earnings		15,197 54
Passenger earnings per mile of road		723 69.24
Passenger earnings per train mile		37.22697
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue	22,492.54	
Number of tons carried one mile	39,321,945	
Average distance haul of one ton—miles	17.5	
Total freight revenue		30,886 03
Average amount received for each ton of freight		1 37.3
Average receipts per ton per mile		7.84
Total freight earnings		30,886 03
Freight earnings per mile of road		1,470 76.33
Freight earnings per train mile		1 44.08486
<b>Passenger and freight:</b>		
Passenger and freight revenue		45,692 85
Passenger and freight revenue per mile of road		2,175 85
Passenger and freight earnings		46,083 57
Passenger and freight earnings per mile of road		2,194 45.57
Gross earnings from operation		64,334 05
Gross earnings from operation per mile of road		3,063 52.62
Gross earnings from operation per train mile		1 03.33127
Operating expenses		51,385 74
Operating expenses per mile of road		2,446 94
Operating expenses per train mile		82.53412
Income from operation		9,765 74
Income from operation per mile of road		465 03.53
<b>Train mileage:</b>		
Miles run by passenger trains	40,824	
Miles run by freight trains	21,436	
Total mileage trains earning revenue	62,260	
Mileage of loaded freight cars—north and south	52,963	
Mileage of empty freight cars—north and south	38,737	
Average number of freight cars in train	6	
Average number of loaded cars in train	6	
Average number of tons of freight in train	60	
Average number of tons of freight in each loaded car	10	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.	Received from Con- necting Roads—Tons	Total Freight Ton- nage.	Per Cent.
Lumber		12,979	12,979.00	57.7
Merchandise	2,883.54	6,630	9,513.54	42.3
Total tonnage	2,883.54	19,609	22,492.54	100.00

## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives, used for all purposes .....	6
Cars in passenger service:	
First-class cars .....	16
Combination cars .....	5
Other cars .....	1
Total .....	22
Cars in freight service:	
Box cars .....	16
Flat cars .....	33
Other cars .....	6
Total .....	55
Total cars owned and in service .....	77

All rolling stock is equipped with the Westinghouse train brake, and the passenger cars with the Miller platform coupler.

## MILEAGE OF ROAD OPERATED. (All in California.)

Line in Use.	Main Line.	Total Mileage Operated.	Steel Rails.
Miles of single track .....	17.70	17.70	17.70
Miles of yard track and sidings .....	3.30	3.30	3.30
Total mileage operated (all tracks) .....	21.00	21.00	21.00

## NEW TIES LAID DURING YEAR.

There were 1,595 split redwood ties laid during the year; average price at distributing point, 26 cents.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Crude Petroleum— Bbls.	Total Fuel Consumed— Tons.	Miles Run.	Average Fuel Consumed per Mile.
Passenger and freight .....		3,237		56,310	2.41 gals.
Switching .....	80		80	5,950	27.00 lbs.

Average cost at distributing point, \$1 09 per bbl. of oil; \$8 per ton of coal. One bbl. oil contains 42 gals.

## ACCIDENTS TO EMPLOYÉES.

Kind of accident: Leg fractured while unloading lumber on dock.

## CHARACTERISTICS OF ROAD.

Redondo Beach to Los Angeles: Length, 17.70 miles; number of curves, 23; aggregate length of curved line, 2.10 miles; length of straight line, 15.60 miles; length of level line, 2.75 miles; number of ascending grades, 27; sum of ascending grades, 300 feet; aggregate length of ascending grades, 7.62 miles; number of descending grades, 23; sum of descending grades, 181 feet; aggregate length of descending grades, 7.25 miles. Gauge of track, 3 feet.

## TELEGRAPH.

This company owns and operates 18 miles of line and 18 miles of wire.

STATE OF CALIFORNIA, }  
County of Los Angeles. } ss.

We, the undersigned, L. T. Garnsey, President, and H. B. Ainsworth, Treasurer, of the Los Angeles & Redondo Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

L. T. GARNSEY,  
President.  
H. B. AINSWORTH,  
Treasurer.

Subscribed and sworn to before me, this 24th day of August, 1896.

V. WANKOWSKI,  
Notary Public in and for the County of Los Angeles, State of California.

## SAN DIEGO, CUYAMACA & EASTERN RAILWAY COMPANY.

### HISTORY.

1. Name of common carrier making this report; San Diego, Cuyamaca & Eastern Railway Company.
2. Date of organization: March 6, 1888.
3. Under what laws organized: Laws of the State of California.
4. If a consolidated company, name the constituent companies: Not a consolidated company.
6. If a reorganized company, give name of original corporation, and refer to laws under which it was organized: Not a reorganized company.

### ORGANIZATION.

Names of Directors.	Post Office Address.
Waldo S. Waterman .....	San Diego, Cal.
George J. Leovy .....	San Diego, Cal.
E. C. Hickman .....	San Diego, Cal.
Heber Ingle .....	San Diego, Cal.
J. E. Fishburn .....	San Diego, Cal.
Levi Chase .....	San Diego, Cal.
A. J. O'Connor .....	San Diego, Cal.

Date of expiration of terms of Directors: February 2, 1897.

Total number of stockholders at date of last election: 20.

Last meeting of stockholders for election of Directors: February 4, 1896.

Post Office address of general and operating offices: San Diego.

Name and address of officer to whom correspondence regarding this report should be addressed: Waldo S. Waterman, General Manager, San Diego.

### OFFICERS.

Title.	Name.	Location of Office.
President .....	George J. Leovy .....	San Diego.
Vice-President .....	Heber Ingle .....	San Diego.
Secretary and Treasurer .....	Waldo S. Waterman .....	San Diego.
Attorney, or General Counsel .....	George J. Leovy .....	San Diego.
Auditor .....	A. H. Kayser .....	San Diego.
General Manager .....	Waldo S. Waterman .....	San Diego.

The duties of General Freight Agent, General Passenger Agent, General Ticket Agent, and General Baggage Agent are performed by General Manager.



## PROPERTY OPERATED.

The San Diego, Cuyamaca & Eastern Railway is operated by main line from San Diego to Foster, a distance of 25.37 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$7,000,000, divided into 70,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$769,000. No dividends were declared.

Total number shares issued and outstanding, 7,690.

## FUNDED DEBT.

Class of Bond or Obligation, and Date of Issue and Maturity.	Authorized Issue.	Amount Issued and Outstanding.
First mortgage—July 1, 1888; July 1, 1918.....	\$550,000	\$550,000

Interest, 6 per cent; payable semi-annually, in January and July; amount accrued during year, \$33,000; amount paid during year, none.

## EQUIPMENT TRUST OBLIGATIONS.

*A. General Statement.*

Series, or Other Designation.	Number of Payments.	Equipment Covered.	Remarks.
Series B 164 A; Dec. 15, 1893; 5 years.....	60	23 flat cars, 6 box cars, 1 coach (No. 2), and 1 locomotive (No. 1).....	*New car trust lease.
New York Equipment Co.—Dec. 16, 1890; 5 years.....	60	1 combination car and 3 excursion coaches.....	Car trust lease (expired).
New York Equipment Co.—Dec. 27, 1893; 2 years.....	24	1 locomotive (No. 2).....	Car trust lease (expired).

\* Includes balance of old lease, Series B, 164; i. e., 8 payments of \$278 03 each, which in old lease were due January 1 to August 1, 1894.

*B. Statement of Amount.*

Series, or Other Designation.	Cash Paid on Delivery of Equipment.	Deferred Payments—Principal.	
		Original Amount.	Amount Outstanding.
Series B 164 A.....		\$13,632 00	\$6,816 00
New York Equipment Co.....	\$70 00	11,930 00	
New York Equipment Co.....		3,999 96	
Totals.....	\$70 00	\$29,561 96	\$6,816 00

## EQUIPMENT TRUST OBLIGATIONS—Continued.

Series, or Other Designation.	Deferred Payments—Interest.			
	Original Amount.	Amount Outstanding.	Amount Accrued During Year.	Amount Paid During Year.
Series B 164 A .....	Interest	included with	principal.	
New York Equipment Co. ....	\$1,921 43	-----	\$409 50	\$409 50
New York Equipment Co. ....	204 61	-----	89 81	89 81
Totals .....	\$2,126 04	-----	\$499 31	\$499 31

Rate of interest, 6 per cent.

## RECAPITULATION OF FUNDED DEBT:

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$550,000 00	\$550,000 00
Equipment trust obligations .....	29,561 96	6,816 00
Totals .....	\$579,561 96	\$556,816 00

Interest accrued during year on mortgage bonds, \$33,000; on equipment trust obligations, \$499 31. Interest paid during year on mortgage bonds, nothing; on equipment trust obligations, \$499 31.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash .....	\$1,042 15	Loans and bills payable (exclusive of car trust obligations) ..	\$600 00
Bills receivable .....	49 00	Audited vouchers and accounts ..	686 11
Due from agents .....	451 14	Wages and salaries .....	1,665 05
Due from solvent companies and individuals .....	1,182 81	Matured interest coupons unpaid .....	264,000 00
Total cash and current assets ..	\$2,725 10		
Balance—current liabilities .....	264,226 06		
Total .....	\$266,951 16	Total .....	\$266,951 16

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$769,000 00	\$769,000 00	25.37	\$30,311 00
Bonds .....	550,000 00	550,000 00		21,679 00
Equipment trust obligations .....	6,816 00	6,816 00		269 00
Current liabilities .....	266,951 16	266,951 16		10,522 00
Totals .....	\$1,592,767 16	\$1,592,767 16	25.37	\$2,781 00

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.
San Diego, Cuyamaca & Eastern Railway.....	\$769,000 00	\$556,816 00	\$266,951 16	\$1,592,767 16

Amount per mile of line (27.37 miles), \$62,781.

COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Charged to Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost Per Mile.
Construction:				
Right of way.....	\$52 14	\$73,461 12	\$73,513 26	\$2,897 64
Fences.....		400 94	400 94	15 80
Grading and clewing.....	327 50	55,983 36	56,310 86	2,219 58
Bridges and trestles.....		14,949 86	14,949 86	589 27
Rails.....		111,543 34	111,543 34	4,396 66
Ties.....		36,198 97	36,198 97	1,426 84
Other superstructure (miscellaneous track material).....		18,958 57	18,958 57	747 28
Buildings, furniture, and fixtures.....	208 74	8,742 15	8,950 89	352 82
Engineering expenses.....		14,303 88	14,303 88	563 81
Interest during construction.....		5,004 96	5,004 96	197 28
Discount on securities sold for construction.....		894,593 50	894,593 50	35,261 87
Telegraph line.....		908 46	908 46	35 81
Sidings and yard extensions.....		9,250 12	9,250 12	364 61
Other items.....	2,000 74	32,782 16	34,782 90	1,371 03
Total construction.....	\$2,589 12	\$1,277,081 39	\$1,279,670 51	\$50,440 30
Equipment:				
Locomotives.....		\$15,521 74	\$15,521 74	\$611 82
Passenger cars.....		12,950 95	12,950 95	510 48
Combination cars (passenger and baggage).....		3,602 90	3,602 90	142 01
Freight cars.....		15,273 23	15,273 23	602 02
Total equipment.....		\$47,348 82	\$47,348 82	\$1,866 33
Total cost construction, equipment, etc.....	\$2,589 12	\$1,324,430 21	\$1,327,019 33	\$52,306 63

INCOME ACCOUNT.

Gross earnings from operation.....	\$38,955 50	
Less operating expenses.....	27,445 60	
Total income.....		\$11,509 90
Deductions from income:		
Interest on funded debt accrued.....	\$33,499 31	
Interest on real estate mortgages.....	66 00	
Taxes.....	2,228 62	
Other deductions (lost accounts and notes).....	605 43	
Total deductions from income.....		36,399 36
Deficit.....		\$24,889 46
Deficit from operations of year ending June 30, 1896.....		\$24,889 46
Deficit on June 30, 1895.....		237,933 27
Deficit on June 30, 1896.....		\$262,822 73

## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Passenger revenue .....	\$15,478 41
Mail .....	1,299 76
Total passenger earnings .....	\$16,778 17
Freight earnings .....	20,223 44
Total passenger and freight earnings .....	\$37,001 61
Other earnings from operation :	
Switching charges—balance .....	\$57 00
Other sources .....	1,874 89
Hire of equipment .....	22 00
Total other earnings .....	\$1,953 89
Total gross earnings from operation .....	\$38,955 50

## STOCKS OWNED.

This company owns stock in the San Diego and Back Country Telephone Company of a par and market value of \$200.

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures :	
Repairs of roadway .....	\$3,166 50
Renewals of ties .....	187 75
Repairs and renewals of bridges and culverts .....	439 75
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	6 05
Repairs and renewals of buildings and fixtures .....	525 94
Repairs and renewals of telegraph .....	24 25
Total .....	\$4,350 24
Maintenance of equipment :	
Repairs and renewals of locomotives .....	\$2,413 47
Repairs and renewals of passenger cars .....	383 03
Repairs and renewals of freight cars .....	539 65
Repairs and renewals of work cars .....	9 06
Total .....	\$3,345 21
Conducting transportation :	
Engine and roundhouse men .....	\$2,420 63
Fuel for locomotives .....	5,260 26
Water supply for locomotives .....	107 50
Oil, tallow, and waste for locomotives .....	227 33
Other supplies for locomotives .....	32 24
Train service .....	1,832 73
Train supplies and expenses .....	58 30
Telegraph expenses .....	176 14
Station service .....	3,486 64
Station supplies .....	181 82
Car mileage—balance .....	*679 50
Loss and damage .....	126 24
Injuries to persons .....	10 00
Advertising .....	591 47
Outside agencies .....	497 27
Rents for tracks, yards, and terminals .....	12 00
Stationery and printing .....	347 97
Total .....	\$14,688 59

\*Credit.



## OPERATING EXPENSES—Continued.

Item.	Amount.
General expenses:	
Salaries of general officers .....	\$3,900 00
General office expenses and supplies .....	150 75
Insurance .....	23 75
Law expenses .....	24 50
Stationery and printing (general offices) .....	81 66
Other expenses .....	880 90
Total .....	\$5,061 56
Recapitulation of expenses:	
Maintenance of way and structures .....	\$1,350 24
Maintenance of equipment .....	3,345 21
Conducting transportation .....	14,688 59
General expenses .....	5,061 56
Grand total .....	\$27,445 60
Percentage of operating expenses to earnings .....	70.50

## RENTS PAID FOR LEASE OF TRACK.

Designation of Property.	Name of Company Owning Property Leased.	Total.
Use of main track between Fifth and Eighth streets, San Diego, for certain special passenger trains .....	Southern California Railway Co...	\$12 00

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$1,277,081 39	Cost of road .....	\$1,279,670 51	\$2,589 12	.....
47,348 82	Cost of equipment .....	47,348 82	.....	.....
	Stocks owned .....	200 00	200 00	.....
2,419 82	Cash and current assets .....	2,725 10	305 28	.....
237,933 27	Profit and loss .....	262,822 73	24,889 46	.....
\$1,564,783 30	Totals .....	\$1,592,767 16	\$27,983 86	.....
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$769,000 00	Capital stock .....	\$769,000 00	.....	.....
561,797 94	Funded debt .....	556,816 00	.....	\$4,981 94
233,985 36	Current liabilities .....	266,951 16	\$32,965 80	.....
\$1,564,783 30	Totals .....	\$1,592,767 16	\$27,983 86	.....

## CONTRACTS, AGREEMENTS, ETC.

2. Mail contract with United States Government: Rate of pay, \$49 59 per mile per annum for 26.21 miles, the distance between terminal post offices.

7. Contract with Western Union Telegraph Company for operating along the line of this railway.

8. No contract with telephone companies, except for the use of a few telephones.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount of Mortgage per Mile of Line.	What Equip-ment Mortgaged.
Mortgage bonds..... Equipment trust obligations— Series B 164 A .....	San Diego to Lakeside.....	22	\$25,000 00	28 flat cars, 6 box cars, 1 coach, 1 lo- comotive.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Number of Days Worked.	Total Yearly Compensation.	Average Daily Compensation.
General officers* .....	4	1,098	\$3,900 00	\$3 55
Other officer (roadmaster) .....	1	131	327 55	2 50
Station agents .....	6	1,619	2,548 20	1 57
Other station men .....	2	743	844 85	1 14
Enginemen .....	2	494	1,482 35	3 00
Firemen .....	2	390	702 80	1 80
Conductors .....	2	377	927 73	2 46
Other trainmen .....	3	699	1,158 50	1 66
Carpenters .....	2	99	265 25	2 68
Section foremen .....	3	688	1,217 05	1 77
Other trackmen .....	6	1,374	2,061 65	1 50
All other employés and laborers (in- cluding wipers) † .....	53	1,245	2,174 38	1 75
Total (including general officers) ..	86	8,957	\$17,610 31	\$1 97
Less general officers .....	4	1,098	3,900 00	3 55
Total (excluding general officers) ..	82	7,859	\$13,710 31	\$1 74
Distribution of above:				
General administration .....	4	1,098	\$3,900 00	\$3 55
Maintenance of way and struc- tures .....	12	2,292	3,871 50	1 69
Maintenance of equipment† .....	52	877	1,570 28	1 79
Conducting transportation .....	18	4,690	8,268 53	1 76
Total (including general officers) ..	86	8,957	\$17,610 31	\$1 97
Less general officers .....	4	1,098	3,900 00	3 55
Total (excluding general officers) ..	82	7,859	\$13,710 31	\$1 74

\*The Vice-President receives no compensation.

†These items are made up principally from the time and compensation of shopmen working a short time (from a few hours to 26 days) each, on repairs of one of our locomotives (in June, 1896).

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	41,403	
Number of passengers carried one mile .....	684,843	
Number of passengers carried one mile per mile of road .....	26,994	
Average distance carried—miles .....	16.54	
Total passenger revenue .....		\$15,478 41
Average amount received from each passenger .....		37.385
Average receipts per passenger per mile .....		02.260
Total passenger earnings .....		16,778 17
Passenger earnings per mile of road .....		661 34
Passenger earnings per train mile (14,256 miles) .....		1 17.692
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	14,587	
Number of tons carried one mile .....	282,399	
Number of tons carried one mile per mile of road .....	11,131	
Average distance haul of one ton—miles .....	19.37	
Total freight revenue .....		20,223 44
Average amount received for each ton of freight .....		1 38.640
Average receipts per ton per mile .....		07.161
Total freight earnings .....		20,223 44
Freight earnings per mile of road .....		797 14
Freight earnings per train mile (24,021 miles) .....		84.191
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		35,701 85
Passenger and freight revenue per mile of road .....		1,407 24
Passenger and freight earnings .....		37,001 61
Passenger and freight earnings per mile of road .....		1,458 48
Gross earnings from operation .....		38,955 50
Gross earnings from operation per mile of road .....		1,535 49
Gross earnings from operation per train mile (38,277 miles) .....		1 01.773
Operating expenses .....		27,445 60
Operating expenses per mile of road .....		1,081 81
Operating expenses per train mile (38,507 miles) .....		71.274
Income from operation .....		11,509 90
Income from operation per mile of road .....		453 68
<b>Train mileage:</b>		
Miles run by passenger trains .....	6,249	
Miles run by mixed trains .....	32,028	
Total mileage trains earning revenue .....	38,277	
Miles run by construction and other trains .....	230	
Grand total train mileage .....	38,507	
Mileage of loaded freight cars .....	36,989	
Mileage of empty freight cars .....	6,520	
Average number of freight cars in train earning revenue .....	1.75	
Average number of loaded freight cars in train earning revenue .....	1.30	
Average number of empty freight cars in train earning revenue .....	.45	
Average number of tons of freight in train earning revenue .....	9.75	
Average number of tons of freight in each loaded car .....	7.48	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on This Road— Tons.	Received From Connecting Roads— Tons.	Total Freight Tonnage.	Per Cent.
Products of agriculture:				
Grain .....	286	-----	286	1.91
Flour .....	290	-----	290	1.99
Other mill products .....	561	-----	561	3.85
Hay .....	1,817	-----	1,817	12.46
Fruit and vegetables .....	2,554	5	2,559	17.55
Products of animals:				
Live stock .....	3	-----	3	0.02
Honey .....	124	-----	124	0.85
Products of mines:				
Bituminous coal .....	85	-----	85	0.58
Ores .....	4	-----	4	0.03
Stone, sand, and other like articles .....	2,084	-----	2,084	14.29
Products of forest:				
Lumber (including box shooks) .....	2,206	221	2,427	16.64
Wood (fuel) .....	1,160	-----	1,160	7.95
Manufactures:				
Petroleum and other oils .....	139	2	141	0.97
Cement, brick, and lime .....	142	-----	142	0.98
Wines, liquors, and beers .....	172	14	186	1.28
Household goods and furniture .....	123	13	136	0.93
Iron pipe .....	98	-----	98	0.68
Merchandise .....	1,475	167	1,642	11.26
Miscellaneous: Other commodities not mentioned above (fertilizers) .....	842	-----	842	5.78
Total tonnage .....	14,165	422	14,587	100.00

## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives owned and leased:	
Passenger .....	2
Less locomotives leased .....	1
Total locomotives owned .....	1
Cars in passenger service:	
First-class cars .....	1
Second-class cars .....	3
Combination cars .....	1
Total .....	5
Cars in freight service:	
Box cars .....	8
Flat cars .....	23
Coal cars .....	3
Total .....	34
Total cars in service .....	39
Less cars leased .....	35
Total cars owned .....	4

All rolling stock is equipped with the Westinghouse air brake, and the passenger cars with Miller hook couplers.

In July, 1895, two of our flat cars were converted into box cars.

Three of our freight cars, previously reported as flat cars, are really coal cars, and are so reported herein.



## MILEAGE OF ROAD OPERATED. (All in California.)

Line in Use.	Total Mileage Operated.	Line Con- structed During Year.	Iron Rails.	Steel Rails.
Miles of single track .....	25.37	-----	.45	24.92
Miles of yard track and sidings .....	1.60	.03	.46	1.14
Total mileage operated (all tracks) .....	26.97	.03	.91	27.06

## NEW TIES LAID DURING YEAR.

Kind.	Number.	Average Price at Distribut- ing Point.
Redwood .....	498	\$0 37.7
Pine (switch ties) .....	15	0 94.1
Totals .....	513	\$0 39.3

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Crude Oil—Bbls.	Bitumin- ous Coal— Tons.	Soft Wood— Cords.	Total Coal and Wood Con- sumed— Tons.	Miles Run.	Average Consumed per Mile.	
						Gals.	Pounds.
All .....	1,431	557.30	21.50	562.05	42,133	4.23	40.26

Average cost at distributing point: Coal, \$6 95 per ton of 2,000 pounds, at San Diego, Cal.; soft wood, \$3 35 per cord of 128 cubic feet, at Lakeside, Cal.; crude oil, \$0 96.7 per barrel of 42 gallons, at San Diego, Cal.

## ACCIDENTS TO PERSONS.

One man caught between station platform and car.

## CHARACTERISTICS OF ROAD.

San Diego to Foster: Length, 25.37 miles; number of curves, 51; aggregate length of curved line, 6.46 miles; length of straight line, 18.91 miles; length of level line, 5.53 miles; number of ascending grades, 65; sum of ascents, 821.3 feet; aggregate length of ascending grades, 12.96 miles; number of descending grades, 42; sum of descents, 311.5 feet; aggregate length of descending grades, 6.88 miles; general direction of ascending grades, eastward; of descending grades, westward.

Bridges: Wooden, 39; aggregate length, 2,502 feet; minimum length, 7 feet; maximum length, 330 feet.

Overhead highway crossings: Number of bridges, 1; height of lowest above surface of rail, 19 feet 3 inches.

Gauge of track: 4 feet 8½ inches; length, 25.37 miles.

## TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
27.37	27.37	Western Union Telegraph Co. ....	San Diego, Cuyamaca & Eastern Ry.

STATE OF CALIFORNIA, }  
County of San Diego. } ss.

We, the undersigned, George J. Leovy, President, and Waldo S. Waterman, Secretary and Treasurer, of the San Diego, Cuyamaca & Eastern Railway Company, on our oath, do severally say that the foregoing return has been prepared under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

GEORGE J. LEOVY,  
President.  
WALDO S. WATERMAN,  
Secretary and Treasurer.

Subscribed and sworn to before me, this 5th day of September, 1896.

THEO. FINTZELBERG,  
Notary Public in and for the County of San Diego, State of California.

## SAN DIEGO, PACIFIC BEACH & LA JOLLA RAILWAY COMPANY.

### HISTORY.

1. Name of common carrier making this report: San Diego, Pacific Beach & La Jolla Railway Company.
  2. Date of organization: Incorporated April, 1894.
  3. Under laws of what Government, State, or Territory organized: California.
- Under the name of the San Diego, Pacific Beach & La Jolla Railway Company, is included the tracks of the San Diego, Old Town & Pacific Beach Railway Company, and the San Diego, Pacific Beach & La Jolla Railway Company, which, while never consolidated, are to all intents and purposes our line; the San Diego, Pacific Beach & La Jolla Railway Company, being an extension of the other line. All stock in both belongs to the same persons, except that held by the Directors. The line is run as the San Diego, Pacific Beach & La Jolla Railway Company, and in this return the whole line is treated as one, as is done in the report made to the Interstate Commerce Commission.

### ORGANIZATION.

- Names of Directors: Herbert Dabney, R. P. Dabney, G. B. Grow, C. D. Boyd, R. G. Nichols, all of San Diego.
- Date of expiration of terms of Directors: June 30, 1897.
- Number of stockholders at date of last election: All shares represented.
- Last meeting of stockholders for election of Directors: June 3, 1896.
- Post Office address of general and operating offices: San Diego, California.
- Name and address of officer to whom correspondence regarding this report should be addressed: Herbert Dabney, General Manager, San Diego, California.

### OFFICERS.

Title.	Name.
President.....	R. P. Dabney.
Vice-President.....	G. B. Grow.
Secretary.....	Herbert Dabney.
Treasurer.....	Merchants' National Bank.
Attorney, or General Counsel.....	Gibson & Titus.
General Manager.....	Herbert Dabney.
Chief Engineer.....	L. J. Davids.
General Superintendent.....	C. D. Boyd.

## PROPERTY OPERATED.

Name.	Terminals.	Miles of Line.
San Diego, Pacific Beach & La Jolla Railway .....	San Diego to La Jolla...	13.54

## CAPITAL STOCK.

The total par value of authorized capital stock is \$275,000, divided into 2,750 shares of a par value of \$100 each. The whole amount is outstanding. No dividends were declared during the year.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash .....	\$423 90	Loans and bills payable .....	\$11,950 00
Due from solvent companies and individuals .....	7,000 82	Audited vouchers and accounts .....	1,664 81
		Wages and salaries .....	530 65
Total cash and current assets .....	\$7,424 72		
Balance—current liabilities .....	6,720 74		
Total .....	\$14,145 46	Total .....	\$14,145 46

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$275,000 00	All.	13.54	\$20,310 00

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Current Liabilities.	Total.	Miles.	Amount per Mile of Line.
San Diego, Pacific Beach & La Jolla Railway .....	\$275,000 00	\$14,145 46	\$289,145 46	13.54	\$21,355 00

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost per Mile.
Construction .....	\$149,456 86	\$149,456 86	\$10,918 00
Right of way .....		162 80	
Buildings, furniture, and fixtures .....		158 55	
Telegraph and telephone lines .....		122 65	
Road built by contract .....		277 00	
Total construction .....		\$150,177 86	\$11,091 48
Equipment .....	\$38,183 20	\$38,183 20	\$2,820 00
Passenger cars .....		270 00	
Other cars of all classes .....		49 75	
Total equipment .....		\$38,502 95	\$2,843 64
Grand total cost construction and equipment, etc. ....		\$188,680 81	\$13,935 12

## INCOME ACCOUNT.

Gross earnings from operation .....	\$12,624 77	
Less operating expenses .....	16,348 77	
Deficit .....		\$3,724 00
Income from other sources' .....		19 57
Deficit .....		\$3,704 43
Taxes .....		1,013 22
Other deductions .....		39 62
Deficit .....		\$4,757 27
Amount paid in by stockholders or passed to account .....		4,757 27
Deficit on June 30, 1895 .....		163 49

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions.	Actual Earnings.
Passenger revenue .....	\$9,760 46		
Tickets redeemed .....		\$44 50	
Total passenger revenue .....			\$9,715 96
Mail .....			409 32
Extra baggage and storage .....			2 90
Other items .....			5 00
Total passenger earnings .....			\$10,133 18
Freight revenue .....	\$2,683 19		
Less overcharge to shippers .....		\$181 44	
Other repayments .....		24 91	
Total deductions .....		\$206 35	
Total freight earnings .....			2,476 84
Total passenger and freight earnings .....			\$12,610 02
Other earnings from operation :			
Telegraph and telephone .....			\$6 00
Rents not otherwise provided for .....			8 75
Total other earnings .....			\$14 75
Total gross earnings from operation .....			\$12,624 77



## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$2,970 93
Repairs and renewals of buildings and fixtures .....	298 61
Total .....	\$3,269 54
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$1,475 85
Repairs and renewals of passenger cars .....	541 97
Repairs and renewals of freight cars .....	47 12
Total .....	\$2,064 94
Conducting transportation:	
Superintendence .....	\$1,147 10
Engine and roundhouse men .....	2,137 00
Fuel for locomotives .....	3,069 55
Water supply for locomotives .....	248 85
Oil, tallow, and waste for locomotives .....	166 23
Other supplies for locomotives .....	34 44
Train service .....	994 75
Train supplies and expenses .....	14 75
Telegraph expenses .....	86 91
Station supplies .....	6 05
Hire of equipment .....	29 50
Loss and damage .....	45 00
Advertising .....	671 38
Commissions .....	531 45
Stationery and printing .....	163 44
Total .....	\$9,346 40
General expenses:	
Salaries of general officers .....	\$950 00
Insurance .....	14 40
Law expenses .....	236 00
Other expenses .....	467 49
Total .....	\$1,667 89
Recapitulation of expenses:	
Maintenance of way and structures .....	\$3,269 54
Maintenance of equipment .....	2,064 94
Conducting transportation .....	9,346 40
General expenses .....	1,667 89
Grand total .....	\$16,348 77
Percentage of operating expenses to earnings .....	129.50

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$149,456 86	Cost of road .....	\$150,177 86	\$721 00	
38,183 20	Cost of equipment .....	38,502 95	319 75	
93,508 93	Due on capital stock .....	92,787 93		\$721 00
23,814 49	Cash and current assets .....	7,424 72		15,389 77
	Materials and supplies .....	252 00	252 00	
163 49	Profit and loss .....			
\$305,126 97	Totals .....	\$289,145 46	\$1,292 75	\$16,274 26
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Decrease.	
\$275,000 00	Capital stock .....	\$275,000 00		
30,125 97	Current liabilities .....	14,145 46		\$15,981 51
\$305,126 97	Totals .....	\$289,145 46		\$15,981 51

## CONTRACTS, AGREEMENTS, ETC.

Contract with the U. S. Government to deliver mails twice daily to Old Town, Pacific Beach, and La Jolla, each way, \$400.

## EMPLOYÉES AND SALARIES.

Class.	Number.	Total Number of Days Worked.	Total Yearly Compensation.	Average Daily Compensation.
General Manager .....	4	365	\$950 00	\$2 60
Superintendent .....	1	365	900 00	2 47
General office clerks .....		365	231 00	63
Enginemen .....	1	380.7	1,142 10	3 00
Firemen .....	1	380.7	761 40	2 00
Conductors .....	1	379.5	948 00	2 50
Brakemen .....		24.6	36 90	1 50
Carpenters .....		12	30 00	2 50
Other shopmen .....		541.4	1,342 30	2 48
Section foremen .....	1	311	744 00	2 39
Other trackmen .....	3	1,108.5	1,885 20	1 61
All other employés, and laborers hauling rock .....		14	42 00	3 00
Total (including general officers) .....		4,247.1	\$9,012 90	\$2 12
Less general officers .....		365	950 00	
Total (excluding general officers) .....		3,882.1	\$8,062 90	\$2 07
Distribution of above:				
General administration .....		1,095	\$2,081 00	\$1 90
Maintenance of way and structures .....		1,445.5	2,701 20	1 87
Maintenance of equipment .....		541.4	1,342 20	2 48
Conducting transportation .....		1,165.2	2,888 40	2 48
Total (including general officers) .....		4,247.1	\$9,012 90	
Less general officers .....		365	950 00	
Total (excluding general officers) .....		3,882.1	\$8,062 90	

General officers are: President, Vice-President, Secretary, and General Manager; latter only receives salary.

No station agents on line.

No regular machinist—machinist work included in "other shopmen."

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue .....	57,999	
Number of passengers carried one mile .....	577,702	
Number of passengers carried one mile per mile of road .....	42,666	
Average distance carried—miles .....	9.96	
Total passenger revenue .....		\$9,715 96
Average amount received from each passenger .....		16.755
Average receipts per passenger per mile .....		1.682
Total passenger earnings .....		10,133 18
Passenger earnings per mile of road .....		748 38.995
Passenger earnings per train mile .....		31.064
Freight traffic:		
Number of tons carried of freight earning revenue .....	1,952	
Number of tons carried one mile .....	18,709	
Number of tons carried one mile per mile of road .....	1,381	
Average distance haul of one ton—miles .....	9.53	
Total freight revenue .....		2,476 84
Average amount received for each ton of freight .....		1 26.887
Average receipts per ton per mile .....		13.239
Total freight earnings .....		2,476 84
Freight earnings per mile of road .....		182 92
Freight earnings per train mile .....		7.593

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE—Continued.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger and freight:		
Passenger and freight revenue .....		\$12,610 02
Passenger and freight revenue per mile of road .....		931 31
Passenger and freight earnings .....		12,610 02
Passenger and freight earnings per mile of road .....		931 31
Gross earnings from operation .....		12,624 77
Gross earnings from operation per mile of road .....		932 41
Gross earnings from operation per train mile .....		38.689
Operating expenses .....		16,348 77
Operating expenses per mile of road .....		1,207 44
Operating expenses per train mile .....		50.118
Deficit from operation .....		4,757 27
Deficit from operation per mile of road .....		351 34
Train mileage: Miles run by mixed trains .....	32,620	

## FREIGHT TRAFFIC MOVEMENT.

Commodity.	Originating on this Road—Tons.	Received from Connecting Roads—Tons.	Total Freight Tonnage.	Per Cent.
Products of agriculture:				
Grain .....	204		204	10.45
Flour .....	13		13	.66
Other mill products .....	95		95	.44
Hay .....	568		568	29.09
Fruit and vegetables .....	72		72	3.69
Products of animals:				
Live stock .....	8		8	.41
Dressed meats .....	3		3	.15
Poultry, game, and fish .....	1		1	.05
Milk .....	274		274	14.03
Products of mines:				
Anthracite coal .....	41		41	2.10
Stone, sand, and other like articles .....	10		10	.51
Products of forest: Lumber .....	386		386	19.62
Manufactures:				
Petroleum and other oils .....	25		25	1.21
Sugar .....	6		6	.31
Naval stores .....	5		5	.25
Castings and machinery .....	3		3	.15
Cement, brick, and lime .....	7		7	.36
Agricultural implements .....	2		2	.10
Wagons, carriages, tools, etc. ....	1		1	.05
Wines, liquors, and beers .....	1		1	.05
Household goods and furni- ture .....	69	39	108	5.53
Merchandise .....	71		71	3.63
Miscellaneous: Other commodi- ties not mentioned above .....	48		48	2.45
Total tonnage .....	1,913	39	1,952	

## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives (motor engines):	
Passenger .....	2
Cars in passenger service:	
Second-class cars .....	6
Combination cars .....	2
Total .....	8
Cars in freight service:	
Box cars .....	1
Flat cars .....	4
Total .....	5
Total cars owned and in service .....	13

Westinghouse train brakes are used on locomotives; ordinary hand brakes on cars. No patent couplers in service.

## MILEAGE OF ROAD OPERATED. (All in California.)

Line in Use.	Total Mileage Operated.	Steel Rails.
Miles of single track .....	13.54	13.54
Miles of yard track and sidings .....	.66	.66
Total mileage operated (all tracks) .....	14.20	14.20

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

In running 32,620 miles, locomotives consumed 443.8 tons of bituminous coal. Average pounds consumed per mile, 27.21.

## CHARACTERISTICS OF ROAD.

San Diego to La Jolla: Length of line, 13.54 miles; number of curves, 30; aggregate length of curved line, 3.69 miles; length of straight line, 9.85 miles; length of level line, 4.24 miles; number of ascending grades, 18; sum of ascending grades, 25.69 feet; aggregate length of ascending grades, 5.47 miles; number of descending grades, 13; sum of descending grades, 17.17 feet; aggregate length of descending grades, 3.82 miles.

There are 19 bridges on the line, aggregating 1,848 feet in length; minimum length, 8 feet; maximum length, 535 feet.

Gauge of track: 4 feet 8½ inches. Total length of all tracks, 14.20 miles.

There is no telegraph. Telephones are used between terminals.

STATE OF CALIFORNIA, }  
County of San Diego. } ss.

We, the undersigned, R. P. Dabney, President, and Herbert Dabney, General Manager and Secretary, of the San Diego, Pacific Beach & La Jolla Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

R. P. DABNEY,  
President.  
HERBERT DABNEY,  
General Manager and Secretary.

Subscribed and sworn to before me, this 15th day of August, 1896.

J. A. ALTAMIRANO, JR.,  
Notary Public in and for San Diego County, California.



## LOS ANGELES TERMINAL RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: Los Angeles Terminal Railway Co.
2. Date of organization: January 2, 1891.
3. Under laws of what Government, State, or Territory organized: California.
4. This is a consolidated company, formed of the Los Angeles & Glendale Railway Co. (incorporated January 13, 1887), the Los Angeles, Pasadena & Glendale Railway Co. (incorporated March 30, 1889), and the Los Angeles Terminal Railway Co. (incorporated August 29, 1890).
6. Not a reorganized company.

## ORGANIZATION.

Names of Directors.	Post Office Address.
George B. Leighton .....	St. Louis.
T. B. Burnett .....	Los Angeles.
W. H. Workman .....	Los Angeles.
Charles Forman .....	Los Angeles.
T. E. Gibbon .....	Los Angeles.

Date of expiration of terms of Directors: Second Tuesday of February, 1897.

Number of stockholders at date of last election: 22.

Last meeting of stockholders for election of Directors: February 11, 1896.

Post Office address of general and operating offices: Los Angeles.

Name and address of officer to whom correspondence regarding this report should be addressed: F. K. Rule, Auditor, Los Angeles, California.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	George B. Leighton .....	St. Louis.
Vice-President .....	T. E. Gibbon .....	Los Angeles.
Secretary .....	F. K. Rule .....	Los Angeles.
Treasurer .....	F. K. Rule .....	Los Angeles.
Attorney, or General Counsel .....	T. E. Gibbon .....	Los Angeles.
Auditor .....	F. K. Rule .....	Los Angeles.
General Manager .....	S. B. Hynes .....	Los Angeles.
Assistant to the General Manager .....	W. J. Cox .....	Los Angeles.

## PROPERTY OPERATED.

Name.	Terminals.	Miles of Line.
Los Angeles Terminal Railway .....	East San Pedro to Altadena .....	43.1
	Glendale Junction to Verdugo Park ..	7.1
Total .....	.....	50.2

## CAPITAL STOCK.

The total par value of authorized capital stock is \$3,000,000, divided into shares of a par value of \$100 each. The total amount issued and outstanding is \$3,000,000. No dividends were declared during the year.

The manner of payment for capital stock is as follows:

	Number of Shares Issued and Outstanding.	Realized on Amount Issued.
Issued for cash .....	1,500	\$15,000 00
Issued for construction .....	28,500	-----
Totals .....	30,000	\$15,000 00

## FUNDED DEBT.

On the 15th of July, 1891, first mortgage bonds were authorized to be issued for construction to the amount of \$1,500,000. The entire amount was issued and is now outstanding. The bonds mature in 1931, and bear 5 per cent interest, payable semi-annually, in January and July. The amount of interest accruing during the year was \$75,000, which was not paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.	Interest Ac- rued During Year.	Interest Paid During Year.
Mortgage bonds.....	\$1,500,000 00	\$1,500,000 00	\$75,000 00	None.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash .....	\$5,868 29	Loans and bills payable .....	\$5,000 00
Bills receivable .....	666 26	Audited vouchers and accounts .....	7,858 06
Due from agents .....	111 04	Wages and salaries .....	3,462 93
Due from solvent companies and individuals .....	14,293 43	Miscellaneous, due on construc- tion .....	58,195 75
Net traffic balances due from other companies .....	2,236 46		
Total cash and current assets .....	\$23,175 48		
Balance—current liabilities .....	51,341 26		
Total .....	\$74,516 74	Total .....	\$74,516 74

Materials and supplies on hand, \$11,335 65.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Out- standing.	Apportion- ment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$3,000,000 00	\$3,000,000 00	50.2	\$59,760 95
Bonds .....	1,500,000 00	1,500,000 00		29,880 47
Current liabilities .....	74,516 74	74,516 74		1,484 39
Totals .....	\$4,574,516 74	\$4,574,516 74	50.2	\$91,125 81

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.
Los Angeles Terminal Railway.	\$3,000,000 00	\$1,500,000 00	\$74,516 74	\$4,574,516 74
Name of Road.			Miles.	Amount per Mile of Line.
Los Angeles Terminal Railway.....			50.2	\$91,125 81

COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost per Mile.
Construction:				
Right of way.....	\$4,133 22	\$3,009 90	\$7,143 12	\$91,040 05
Fences.....		147 70	147 70	
Bridges and trestles.....		503 33	503 33	
Other superstructure.....	813 81	7,475 12	8,288 93	
Buildings, furniture, and fixtures.....	252 22	2,209 48	2,461 70	
Interest during construction.....		1,802 01	1,802 01	
Telegraph line.....		150 00	150 00	
Sidings and yard extensions.....	64 10	3,943 78	4,007 88	
Road built by contract.....		4,350,000 00	4,350,000 00	
Purchase of constructed road.....	211 49	38,394 22	38,605 71	
Other items.....		157,100 24	157,100 24	
Totals.....	\$5,474 84	\$4,564,735 78	\$4,570,210 62	\$91,040 05

Cost of construction included in contract.

INCOME ACCOUNT.

Gross earnings from operation.....	\$106,105 28	
Less operating expenses.....	96,740 34	
Total income.....		\$9,364 94
Deductions from income:		
Taxes.....	\$9,138 00	
Other deductions.....	200 00	
Total deductions from income.....		9,338 00
Net income.....		\$26 94
Surplus from operations of year ending June 30, 1896.....		\$26 94
Surplus on June 30, 1895.....		30,178 07
Surplus on June 30, 1896.....		\$30,205 01

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Actual Earnings.
Passenger revenue .....		\$43,724 75
Mail .....		1,200 00
Total passenger earnings .....		\$44,924 75
Freight revenue .....	\$60,491 79	
Storage, etc. ....	105 00	
Total freight earnings .....		60,596 79
Total passenger and freight earnings .....		\$105,521 54
Other earnings from operation :		
Car mileage—balance .....	\$373 74	
Rents not otherwise provided for .....	210 00	
Total other earnings .....		583 74
Total gross earnings from operation .....		\$106,105 28

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures :	
Repairs of roadway .....	\$10,047 99
Renewals of rails .....	63 22
Renewals of ties .....	54 26
Repairs and renewals of bridges and culverts .....	1,196 54
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	164 63
Repairs and renewals of buildings and fixtures .....	646 02
Repairs and renewals of docks and wharves .....	926 39
Repairs and renewals of telegraph .....	98 16
Stationery and printing .....	60 90
Other expenses .....	1,379 08
Total .....	\$14,637 19
Maintenance of equipment :	
Superintendence .....	\$1,864 00
Repairs and renewals of locomotives .....	5,762 39
Repairs and renewals of passenger cars .....	2,721 37
Repairs and renewals of freight cars .....	1,249 71
Repairs and renewals of work cars .....	89 72
Stationery and printing .....	47 20
Total .....	\$11,734 39
Conducting transportation :	
Superintendence .....	\$2,400 00
Engine and roundhouse men .....	10,758 50
Fuel for locomotives .....	12,286 48
Water supply for locomotives .....	873 20
Oil, tallow, and waste for locomotives .....	385 17
Other supplies for locomotives .....	231 74
Train service .....	6,814 95
Train supplies and expenses .....	1,163 05
Switchmen, flagmen, and watchmen .....	3,006 26
Telegraph expenses .....	843 93
Station service .....	12,508 04
Station supplies .....	3,766 12
Loss and damage .....	63 49
Injuries to persons .....	109 35
Advertising .....	2,190 16
Rents of buildings and other property .....	291 00
Stationery and printing .....	863 50
Total .....	\$58,604 94



## OPERATING EXPENSES—Continued.

Item.	Amount.
General expenses:	
Salaries of general officers .....	\$5,991 67
Salaries of clerks and attendants .....	1,730 50
General office expenses and supplies .....	194 91
Insurance .....	774 75
Law expenses .....	2,418 65
Stationery and printing (general offices) .....	300 86
Other expenses .....	352 48
Total .....	\$11,763 82
Recapitulation of expenses:	
Maintenance of way and structures .....	\$14,637 19
Maintenance of equipment .....	11,734 39
Conducting transportation .....	58,604 94
General expenses .....	11,763 82
Grand total .....	\$96,740 34
Percentage of operating expenses to earnings .....	91.173

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$4,564,735 78	Cost of road and equipment .....	\$4,570,210 62	\$5,474 84	
31,290 08	Cash and current assets .....	23,175 48		\$8,114 60
10,767 47	Materials and supplies .....	11,335 65	568 18	
\$4,606,793 33	Totals .....	\$4,604,721 75		\$2,071 58
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$3,000,000 00	Capital stock .....	\$3,000,000 00		
1,500,000 00	Funded debt .....	1,500,000 00		
76,615 26	Current liabilities .....	74,516 74		\$2,098 52
30,178 07	Profit and loss .....	30,205 01	\$26 94	
\$4,606,793 33	Totals .....	\$4,604,721 75		\$2,071 58

## CONTRACTS, AGREEMENTS, ETC.

2. Mail is carried between Los Angeles and Long Beach, 21.9 miles, and between Pasadena and Altadena, 6.18 miles.

5. With Southern California Railway Company in freight business between East San Pedro and Manhattan Junction, 24.50 miles; with Southern California Railway Company, Southern Pacific Company, and Los Angeles & Redondo Railway Company on freight business between Los Angeles and adjacent seaports.

6. With Pacific Coast Steamship Company on freight business between Los Angeles and adjacent seaports.

7. With Western Union Telegraph Company for line along this road.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount per Mile of Line.
First mortgage .....	Los Angeles to East San Pedro .....	27.0	\$34,324 94
	Los Angeles to Pasadena .....	8.5	34,324 94
	Los Angeles to Verdugo .....	8.2	34,324 94

All equipment and all income are mortgaged.

## EMPLOYEES AND SALARIES.

Class.	Number.	Total Days Worked.	Total Compensation.	Average Daily Compensation.
General officers .....	4	730	\$5,991 67	\$8 20.7
Other officers .....	2	730	4,400 00	6 02.7
General office clerks .....	2	816	1,780 50	2 12.0
Station agents .....	8	3,020	7,432 00	2 46.0
Other station men .....	5	1,965	3,118 00	1 58.6
Enginemen .....	8	2,367	7,101 00	3 00.0
Firemen .....	6	2,090	3,657 50	1 75.0
Conductors .....	4	1,516	4,350 50	2 86.9
Other trainmen .....	5	1,375	2,464 45	1 79.2
Machinists .....	3	1,136	3,617 50	3 18.4
Carpenters .....	2	738	1,895 50	2 56.8
Other shopmen .....	5	1,475	4,425 75	3 00.0
Section foremen .....	5	1,816	4,575 00	2 51.9
Other trackmen .....	10	3,805	5,805 75	1 52.5
Switchmen, flagmen, and watchmen .....	5	2,385	3,006 25	1 26.0
Telegraph operators and dispatchers .....	1	415	750 60	1 80.7
Total (including general officers) .....	75	26,379	\$64,321 38	\$2 43.8
Less general officers .....	4	730	5,991 67	8 20.7
Total (excluding general officers) .....	71	25,649	\$58,329 71	\$2 27.4
Distribution of above:				
General administration .....	8	2,276	\$12,122 17	\$5 32.6
Maintenance of way and structures .....	16	5,821	10,856 25	1 86.5
Maintenance of equipment .....	9	3,149	9,463 25	3 00.5
Conducting transportation .....	42	15,133	31,879 71	2 10.6
Total (including general officers) .....	75	26,379	\$64,321 38	\$2 43.8
Less general officers .....	4	730	5,991 67	8 20.7
Total (excluding general officers) .....	71	25,649	\$58,329 71	\$2 27.4

The President receives no compensation. The positions of Treasurer and Auditor are combined.

## DESCRIPTION OF EQUIPMENT.

Item.	Total.
Locomotives:	
Passenger .....	4
Freight .....	4
Total locomotives .....	8
Cars in passenger service:	
First-class passenger cars .....	13
Combination passenger cars .....	6
Other cars in passenger service .....	1
Total .....	20
Cars in freight service:	
Box cars .....	34
Flat cars .....	74
Stock cars .....	1
Coal cars .....	38
Total .....	147
Cars in company's service:	
Derrick cars .....	1
Caboose cars .....	2
Other road cars .....	1
Total .....	4
Total cars owned .....	171

All rolling stock is equipped with the Westinghouse air-brake.

Fitted with automatic coupler: 20 cars in passenger service, with Miller patent; 34 box cars, 74 flat cars, 1 stock car, 38 coal cars, 1 derrick car, 2 caboose cars, and 1 road car, with Safford patent.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	163,666	
Number of passengers carried one mile .....	2,515,546	
Number of passengers carried one mile per mile of road ..	50,110	
Average distance carried—miles .....	15.37	
Total passenger revenue .....		\$43,724 75
Average amount received from each passenger .....		26.716
Average receipts per passenger per mile .....		01.738
Total passenger earnings .....		44,924 75
Passenger earnings per mile of road .....		894 92
Passenger earnings per train mile .....		43.238
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	46,304	
Number of tons carried one mile .....	849,215	
Number of tons carried one mile per mile of road .....	16,916	
Average distance haul of one ton—miles .....	18.34	
Total freight revenue .....		60,491 79
Average amount received for each ton of freight .....		1 30.641
Average receipts per ton per mile .....		07.123
Total freight earnings .....		60,596 79
Freight earnings per mile of road .....		1,207 11
Freight earnings per train mile .....		1 29.009
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		104,216 54
Passenger and freight revenue per mile of road .....		2,076 03
Passenger and freight earnings .....		105,521 54
Passenger and freight earnings per mile of road .....		2,102 02
Gross earnings from operation .....		106,105 28
Gross earnings from operation per mile of road .....		2,113 65
Gross earnings from operation per train mile .....		70.328
Operating expenses .....		96,740 34
Operating expenses per mile of road .....		1,927 10
Operating expenses per train mile .....		64.120
Income from operation .....		9,364 94
Income from operation per mile of road .....		186 55
<b>Train mileage:</b>		
Miles run by passenger trains .....	93,000	
Miles run by freight trains .....	14,265	
Miles run by mixed trains .....	43,608	
Total mileage trains earning revenue .....	150,873	
Miles run by switching trains .....	19,223	
Grand total train mileage .....	170,096	
Mileage of loaded freight cars—north or east .....	104,892	
Mileage of loaded freight cars—south or west .....	26,165	
Mileage of empty freight cars—north or east .....	4,739	
Mileage of empty freight cars—south or west .....	82,260	
Average number of freight cars in train .....	15.29	
Average number of loaded cars in train .....	9.19	
Average number of empty cars in train .....	6.10	
Average number of tons of freight in train .....	59.53	
Average number of tons of freight in each loaded car .....	6.48	

Mileage of switching trains based on reports of engineers of number of hours on switch engines, calculating mileage at 8 miles per hour.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road— Tons.	Received from Connecting Roads—Tons.	Total Freight Tonnage.	Per Cent.
Products of Agriculture:				
Grain .....	1,271	4	1,275	2.75
Flour .....	90	190	280	.60
Other mill products .....	318	67	385	.83
Hay .....	689	50	739	1.59
Fruit and vegetables .....	3,581	412	3,993	8.63
Products of animals:				
Live stock .....	110	1	111	.24
Dressed meats .....	254	36	290	.63
Other packing-house products ..	48	897	945	2.04
Poultry, game, and fish .....	421	1	422	.91
Wool .....	67		67	.15
Hides and leather .....		5	5	.01
Products of mines:				
Anthracite coal .....		19	19	.04
Bituminous coal .....	1,613	941	2,554	5.52
Coke .....	34		34	.07
Stone, sand, and other like arti- cles .....		10	10	.02
Products of forest:				
Lumber .....	27,029	433	27,462	59.31
Lumber products .....	1,236	259	1,495	3.23
Wood .....		17	17	.04
Manufactures:				
Petroleum and other oils .....	278	97	375	.81
Sugar .....	69	571	640	1.38
Naval stores .....		64	64	.14
Iron, pig and bloom .....		20	20	.04
Iron and steel rails .....		41	41	.09
Other castings and machinery ..	429	53	482	1.04
Bar and sheet metal .....		27	27	.06
Cement, brick, and lime .....	319	337	656	1.42
Agricultural implements .....	12		12	.02
Wagons, carriages, tools, etc. ....	5		5	.01
Wines, liquors, and beers .....	97		97	.21
Household goods and furniture ..	269	75	344	.74
Merchandise .....	1,441	883	2,324	5.02
Miscellaneous: Other commodi- ties not mentioned above .....	883	231	1,114	2.41
Total tonnage .....	40,563	5,741	46,304	100.00

## MILEAGE OF ROAD OWNED AND OPERATED. (All in California.)

Line in Use.	Main Line.	Branches and Spurs.	Total Mileage Operated.	Steel Rails.
Miles of single track .....	43.10	7.10	50.20	50.20
Miles of yard track and sidings ..	8.49	.45	8.94	8.94
Total (all tracks) .....	51.59	7.55	59.14	59.14

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Total Oil Consumed— Barrels.	Miles Run.	Average Gal- lons Consumed per Mile.
All .....	19,820	170,096	4.894

Average cost at distributing point: 61.99 cents per barrel, 1.476 cents per gallon, 7.224 cents per mile.



## ACCIDENTS TO PERSONS.

Trainmen: 2 killed, coupling and uncoupling.

Other employes: 1 injured by having hand mashed while switching cars; 1 (painter) injured by falling from roof of station building.

Passengers: 2 ladies injured by stepping off moving trains.

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Alignment.		
		Number of Curves.	Aggregate Length of Curved Line—Miles .....	Length of Straight Line—Miles .....
Los Angeles to East San Pedro .....	27.5	31	5.5	22.0
Los Angeles to Altadena .....	15.6	58	5.6	10.0
Glendale Junction to Verdugo Park .....	7.1	23	1.6	5.5
Totals .....	50.2	112	12.7	37.5

Working Divisions or Branches.	Profile.						
	Length of Level Line—Miles.....	Number of Ascending Grades..	Sum of Ascents of Ascending Grades—Feet.....	Aggregate Length of Ascending Grades—Miles..	Number of Descending Grades	Sum of Descents of Descending Grades—Feet.....	Aggregate Length of Descending Grades—Miles.....
Los Angeles to East San Pedro .....	6.9	14	60.4	3.4	41	318.3	17.2
Los Angeles to Altadena .....	1.0	144	1,100.4	4.4	18	44.0	1.2
Glendale Junction to Verdugo Park..	0.4	50	439.6	6.1	4	30.5	0.7
Totals .....	8.3	208	1,600.4	13.9	63	392.8	19.1

## BRIDGES, TRETTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Trestles .....	27	5,618 feet.	10 feet.	1,200 feet.

Item.	Number.	Height Above Surface of Rail.
Overhead highway crossings:		
Bridges .....	4	21 feet.
Conduits .....	2	16 feet.
Total .....	6	
Overhead railway crossings:		
Bridges .....	1	21 feet.

Gauge of track, 4 feet 8½ inches; length, 50.2 miles.

TELEGRAPH OWNED BY ANOTHER COMPANY, BUT LOCATED ON PROPERTY OF ROAD  
MAKING THIS REPORT.

Miles of Line.	Miles of Wire.	Name of Owner.	Name of Operating Company.
43.1	43.1	Western Union Telegraph Co.....	Western Union Telegraph Co.

## CAR MILEAGE.

We pay the usual California mileage on all foreign freight cars that come on our road. We have no special agreement with any one.

STATE OF CALIFORNIA, )  
County of Los Angeles. ) ss.

We, the undersigned, T. E. Gibbon, Vice-President, and Fred K. Rule, Auditor and Treasurer, of the Los Angeles Terminal Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

T. E. GIBBON,  
Vice-President.  
FRED K. RULE,  
Auditor and Treasurer.

Subscribed and sworn to before me, this 14th day of September, 1896.

W. J. COX,  
Notary Public in and for Los Angeles County, California.

## VISALIA &amp; TULARE RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Visalia & Tulare Railroad Company.
2. Date of organization: November 4, 1887.
3. Under laws of what Government, State, or Territory organized: California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
Jasper Harrell .....	Visalia, Cal.
A. J. Harrell .....	Visalia, Cal.
G. A. Botsford .....	Visalia, Cal.
Chas. P. Lindsey .....	Visalia, Cal.
Geo. D. Smith .....	Visalia, Cal.
V. D. Knupp .....	Porterville, Cal.
T. H. Thompson .....	Tulare, Cal.

Date of expiration of terms of Directors: June 1, 1897.

Total number of stockholders at date of last election: 9.

Date of last meeting of stockholders for election of Directors: June 1, 1896.

Post Office address of general and operating offices: Visalia, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: A. J. Harrell, General Manager, Visalia, Cal.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President	Jasper Harrell	Visalia, Cal.
First Vice-President	A. J. Harrell	Visalia, Cal.
Secretary	Geo. D. Smith	Visalia, Cal.
Treasurer	Producers Bank	Visalia, Cal.
General Solicitor	W. G. Dozier	Visalia, Cal.
General Manager	A. J. Harrell	Visalia, Cal.
Chief Engineer	George Wright	Visalia, Cal.
General Superintendent	A. J. Harrell	Visalia, Cal.
Traffic Manager	W. G. Dozier	Visalia, Cal.
General Freight Agent	W. G. Dozier	Visalia, Cal.
General Passenger Agent	Thos. H. Thompson	Visalia, Cal.
Asst. Gen. Passenger Agent	W. G. Dozier	Visalia, Cal.
General Baggage Agent	Edward Rhodoffer	Visalia, Cal.

## PROPERTY OPERATED.

The Visalia & Tulare Railroad is operated by main line from Visalia to Tulare, a distance of 11½ miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$100,000, divided into 1,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$60,000.

Manner of payment for capital stock: Number of shares issued and outstanding, 1000; total cash realized, \$60,000.

## FUNDED DEBT.

In 1888 an issue of first mortgage bonds to the amount of \$50,000 was authorized, and which amount is now outstanding. The cash realized was \$49,000. The bonds mature in 1898, and bear 7 per cent interest, payable semi-annually. The interest accruing during the year amounted to \$3,500, which was paid in full.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued and Outstanding.	Interest Accrued During Year.	Interest Paid During Year.
Mortgage bonds	\$50,000 00	\$3,500 00	\$3,500 00

## CURRENT LIABILITIES ACCRUED TO AND INCLUDING JUNE 30, 1896.

Loans and bills payable..... \$23,678 77

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount Per Mile of Line.
Capital stock	\$60,000 00	\$60,000 00	11½	\$5,217 39
Bonds	50,000 00	50,000 00		4,347 82
Totals	\$110,000 00	\$110,000 00	11½	\$9,665 21

## B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.	Miles.	Amount Per Mile of Line.
Visalia & Tulare.	\$60,000 00	\$50,000 00	\$23,678 77	\$133,678 77	11½	\$11,624 24

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.
Construction (all construction included) .....	\$91,054 66	\$91,054 66
Real estate .....	1,601 50	1,601 50
Buildings, furniture, and fixtures .....	2,612 12	2,612 12
Total construction .....	\$95,268 28	\$95,268 28
Equipment (total cost of rolling stock) .....	21,150 78	21,150 78
Total cost construction, equipment, etc. ....	\$116,419 06	\$116,419 06

## INCOME ACCOUNT.

Gross earnings from operation .....	\$8,991 50	
Less operating expenses .....	6,900 58	
Total income .....		\$2,090 92
Deductions from income:		
Interest on funded debt accrued .....	\$3,500 00	
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	1,412 65	
Interest on real estate mortgages (insurance) .....	4 85	
Taxes .....	500 27	
Other deductions (legal expense) .....	198 50	
Total deductions from income .....		5,616 27
Deficit from operations of year ending June 30, 1896 .....		\$3,525 35
Deficit on June 30, 1896 .....		16,006 88

## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Passenger revenue .....	\$7,492 25
Extra baggage and storage .....	98 95
Total passenger earnings .....	\$7,591 20
Freight earnings .....	1,400 30
Total gross earnings from operation .....	\$8,991 50

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures .....	\$1,992 71
Maintenance of equipment .....	341 05
Conducting transportation:	
Engine and roundhouse men .....	\$1,440 00
Fuel for locomotives .....	1,260 00
Water supply for locomotives .....	120 00
Oil, tallow, waste, and other supplies for locomotives, train service, train supplies and expenses, switchmen, flagmen, and watchmen, telegraph expenses, station service and supplies, switching charges (balance), car mileage (balance), and hire of equipment .....	1,646 82
Rents for tracks, yards, and terminals .....	100 00
Total .....	\$4,566 82
Recapitulation of expenses:	
Maintenance of way and structures .....	\$1,992 71
Maintenance of equipment .....	341 05
Conducting transportation .....	4,566 82
Grand total .....	\$6,900 58



## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.
\$91,054 66	Cost of road .....	\$91,054 66	
21,150 78	Cost of equipment .....	21,150 78	
2,612 12	Building account .....	2,612 12	
257 83	Bills receivable .....	257 83	
1,601 50	Lands owned .....	1,601 50	
995 00	Assessments unpaid .....	995 00	
*12,481 53	Profit and loss .....	*16,006 88	\$3,525 35
\$130,153 42	Totals .....	\$133,678 77	
June 30, 1895.	Liabilities.	June 30, 1896.	
\$60,000 00	Capital stock .....		\$60,000 00
50,000 00	Funded debt .....		50,000 00
21,153 42	Current liabilities .....		23,678 77
\$131,153 42	Totals .....		\$133,678 77

\* Loss.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obliga- tion.	What Road Mortgaged.	Miles.	Amount of Mortgage per Mile of Line.	What Equipment Mortgaged.
First mortgage bonds..	Visalia to Tulare.....	11½	\$4,347 82	All.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue.....	13,463	
Total passenger revenue.....		\$7,492 25
Total passenger earnings.....		7,591 20
Freight traffic:		
Number of tons carried of freight earning revenue.....	944	
Total freight revenue.....		1,400 30
Passenger and freight:		
Passenger and freight earnings.....		8,991 50
Passenger and freight earnings per mile of road.....		781 87
Gross earnings from operation.....		8,991 50
Gross earnings from operation per mile of road.....		781 87
Operating expenses.....		6,900 58
Operating expenses per mile of road.....		600 50
Income from operation.....		8,991 50
Income from operation per mile of road.....		781 87
Train mileage:		
Miles run by passenger trains .....	25,185	

## FREIGHT TRAFFIC MOVEMENT.

Statistics concerning freight are not kept separately.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Number of Days Worked.	Total Yearly Compensation.	Average Daily Compensation.
Engineman .....	1	365	\$900 00	\$2 50
Fireman .....	1	365	500 00	1 50
Conductor .....	1	365	780 00	2 16
Section foreman .....	1	360	900 00	2 50
Other trackmen not employed regularly .....			839 20	
Totals .....	4	1,455	\$3,959 20	

## DESCRIPTION OF EQUIPMENT.

Locomotives in service, 2; first-class passenger cars in service, 3. The Southern Pacific Company furnishes freight cars as needed.

One locomotive is equipped with air train brake.

## MILEAGE.

This company owns and operates  $11\frac{1}{2}$  miles (main line) of single track, all in California. Rails are 30-lb. steel.

## NEW TIES LAID DURING YEAR.

No record kept of new ties laid during year.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

In running 25,185 miles, passenger locomotives used 365 cords of hard wood. Average price at distributing point, \$3 50 per cord.

## CHARACTERISTICS OF ROAD.

Visalia to Tulare: Length of track (level throughout),  $11\frac{1}{2}$  miles; aggregate length of curved line,  $1\frac{1}{2}$  miles; length of straight line, 10 miles.

Bridges: Wooden, 7; aggregate length, 208 feet; minimum length, 16 feet; maximum length, 32 feet.

Gauge of track, 4 feet  $8\frac{1}{2}$  inches; length,  $11\frac{1}{2}$  miles.

STATE OF CALIFORNIA, )  
County of Tulare. ) ss.

We, the undersigned, Jasper Harrell, President, and Geo. D. Smith, Secretary, of the Visalia & Tulare Railroad Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JASPER HARRELL,  
President.  
GEO. D. SMITH,  
Secretary.

Subscribed and sworn to before me, this 7th day of August, 1896.

G. A. BOTSFORD,  
Notary Public in and for Tulare County, State of California.

## YREKA RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Yreka Railroad Company.
2. Date of organization: May 28, 1888.
3. Under what laws organized: Laws of the State of California.

## ORGANIZATION.

Names of Directors: J. Churchill, J. M. Walbridge, Chas. Junker, H. B. Gillis, M. Renner, all of Yreka, California.

Date of expiration of terms of Directors: May, 1897.

Number of stockholders at date of last election: 190.

Last meeting of stockholders for election of Directors: May 4, 1896.

Post Office address of general and operating offices: Yreka.

Name and address of officer to whom correspondence regarding this report should be addressed: J. T. Schultz, Superintendent, Yreka, California.

## OFFICERS.

Title.	Name.
Chairman of the Board.....	J. Churchill.
President.....	J. Churchill.
Vice-President.....	J. M. Walbridge.
Secretary.....	F. E. Wadsworth.
Treasurer.....	Siskiyou County Bank.
General Manager.....	J. Churchill.
General Superintendent.....	J. T. Schultz.
Superintendent of Telegraph, Traffic Manager, General Freight Agent, General Passenger Agent, General Ticket Agent, and General Baggage Agent.....	J. T. Schultz.

## PROPERTY OPERATED.

Yreka Railroad: Montague to Yreka, a distance of 7.9 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$100,000, divided into 4,000 shares of a par value of \$25 each. The total amount issued and outstanding is \$99,075.

Manner of payment for capital stock: Issued for cash, 3,963 shares; realized on amount issued, \$49,575; cash raised by note of Directors and five citizens, \$45,000; total cash realized, \$94,575.

## FUNDED DEBT.

Class of Bond or Obligation.	Date of Issue.	When Due.	Amount of Authorized Issue.	Amount Issued.	Amount Outstanding.	Cash Realized on Amount Issued.
Mortgage....	Mar., '95	Mar., '99	\$45,000 00	\$45,000 00	\$45,000 00	\$45,000 00

These bonds bear 7 per cent interest, payable quarterly. Interest accrued during year, \$3,594 27, which amount was paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.	Interest Accrued During Year.	Interest Paid During Year.
Mortgage bonds .....	\$45,000 00	\$45,000 00	\$3,150 00	\$3,150 00
Miscellaneous obligations—bank overdraft .....		3,902 57	444 27	444 27
Totals .....	\$45,000 00	\$48,902 57	\$3,594 27	\$3,594 27

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Materials and supplies on hand.. \$36,224 28	Loans and bills payable ..... \$3,902 57

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$99,075 00		7.5	\$13,210 00
Bonds .....	45,000 00	\$144,075 00		6,000 00
Current liabilities .....	3,902 57			494 00
Totals .....	\$147,977 57	\$147,075 00		

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Total.	Miles.	Amount per Mile of Line.
Yreka Railroad .....	\$100,000 00	\$45,000 00	\$145,000 00	7.5	\$19,333 00

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.
Construction:		
Right of way .....	\$1,775 00	\$1,775 00
Other real estate .....	2,561 90	2,561 90
Fences .....	1,107 37	1,107 37
Grading, and bridge and culvert masonry .....	38,505 31	38,505 31
Bridges and trestles .....	3,271 10	3,271 10
Rails .....	223 21	223 21
Ties .....	22 50	22 50
Other superstructure .....	40,330 92	40,330 92
Buildings, furniture, and fixtures .....	2,492 73	2,492 73
Engineering expenses .....	6,485 20	6,485 20
Terminal facilities and elevators .....	449 40	449 40
Other items .....	6,331 72	6,331 72
Total construction .....	\$103,556 36	\$103,556 36
Equipment:		
Cars of all classes .....	\$64 25	\$64 25
Floating equipment .....	12,446 50	12,446 50
Total equipment .....	\$12,510 75	\$12,510 75
Total cost construction, equipment, etc. ....	\$116,067 11	\$116,067 11

Cost per mile, \$15,475 61.



## INCOME ACCOUNT.

Gross earnings from operation .....	\$14,286 22	
Less operating expenses .....	8,389 13	
Income from operation .....		\$5,897 09
Deductions from income:		
Interest on funded debt accrued .....	\$3,150 00	
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	444 27	
Rents paid for lease of road .....	684 30	
Total deductions from income .....		4,278 57
Surplus from operations of year ending June 30, 1896 .....		\$1,618 52
Surplus on June 30, 1895 .....		1,708 30
Surplus on June 30, 1896 .....		\$3,326 82

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Actual Earnings.
Passenger revenue .....		\$7,240 00
Mail .....	\$458 72	
Express .....	613 18	
		1,071 90
Total passenger earnings .....		\$8,311 90
Freight revenue .....		5,974 32
Total passenger and freight earnings .....		\$14,286 22

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$707 05
Renewals of ties .....	154 15
Repairs and renewals of bridges and culverts .....	233 42
Repairs and renewals of telegraph .....	17 50
Total .....	\$1,112 12
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$1,367 39
Repairs and renewals of passenger and freight cars .....	52 44
Total .....	\$1,419 83
Conducting transportation:	
Superintendence .....	\$978 00
Engine and roundhouse men .....	1,741 00
Fuel for locomotives .....	1,866 20
Water supply for locomotives .....	85 09
Station service .....	300 00
Station supplies .....	120 00
Car mileage—balance .....	225 00
Commissions .....	262 36
Stationery and printing .....	95 06
Other expenses .....	184 47
Total .....	\$5,857 18
Recapitulation of expenses:	
Maintenance of way and structures .....	\$1,112 12
Maintenance of equipment .....	1,419 83
Conducting transportation .....	5,857 18
Grand total .....	\$8,389 13

## COMPARATIVE GENERAL BALANCE SHEET.

Assets.	June 30, 1896.	Liabilities.	June 30, 1896.
Cost of road.....	\$103,556 36	Capital stock .....	\$100,000 00
Cost of equipment .....	12,510 75	Funded debt .....	45,000 00
Materials and supplies and other expenses .....	36,224 28	Current liabilities .....	3,902 57
		Profit and loss .....	3,326 82
Total .....	\$152,291 39	Total .....	\$152,229 39

## CONTRACTS, AGREEMENTS, ETC.

Contract with Wells, Fargo & Co.'s Express. No fixed sum per annum, income depending on amount carried.

Mail contract with United States Government, at \$458 72 per annum.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount of Mortgage Per Mile of Line.	What Equipment Mortgaged.
Mortgage .....	Montague to Yreka ...	7.9	\$5,700 00	..... All.

## EMPLOYÉES AND SALARIES.

Class.	Number.	Total Days Worked.	Total Compen- sation.	Average Daily Compensation.
Station agents.....	1	365	\$978 00	\$2 67+
Other station men .....	2	365	300 00	82+
Enginemen .....	1	365	1,667 50	2 92+
Firemen .....	1	365	661 00	1 81+
Other trainmen .....			12 50	
Section foremen .....	1	365	608 00	
Other trackmen .....		52	93 30	1 80
Total .....			\$3,720 30	
Distribution of above:				
General administration .....			\$1,278 00	
Maintenance of way and structures .....			701 30	
Maintenance of equipment and transportation .....			1,741 00	
Total .....			\$3,720 30	

General officers consist of Board of Directors and Secretary, and receive no salary.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue.....	12,918	
Total passenger revenue.....		\$7,240 00
Total passenger earnings.....		8,311 90
Passenger earnings per mile of road.....		1,108 25
Passenger earnings per train mile.....		72.064
Freight traffic:		
Number of tons carried of freight earning revenue.....	3,690	
Total freight revenue.....		5,974 32
Average receipts per ton per mile.....		16.1+
Total freight earnings.....		5,974 32
Freight earnings per mile of road.....		791 10
Freight earnings per train mile.....		51.797
Passenger and freight:		
Passenger and freight revenue.....		13,214 32
Passenger and freight revenue per mile of road.....		1,761 90
Passenger and freight earnings.....		14,286 22
Passenger and freight earnings per mile of road.....		1,904 83
Gross earnings from operation.....		14,286 22
Gross earnings from operation per mile of road.....		1,904 83
Gross earnings from operation per train mile.....		1 23.861
Operating expenses.....		8,389 13
Operating expenses per mile of road.....		1,118 55
Operating expenses per train mile.....		72.733
Income from operation.....		5,897 09
Income from operation per mile of road.....		786 27
Train mileage:		
Miles run by mixed trains.....	11,534	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Month.	Received from Connecting Roads—Lbs.
July.....	646,672
August.....	565,409
September.....	613,272
October.....	935,205
November.....	786,236
December.....	395,395
January.....	191,579
February.....	514,580
March.....	519,457
April.....	950,090
May.....	563,717
June.....	700,323
	7,381,940

Or 3,690+ tons.

There are no important commodities on this line. Shipping consists almost entirely of general merchandise.

## DESCRIPTION OF EQUIPMENT.

Locomotives—passenger, 1. Cars in passenger service—combination passenger cars, 1. Cars in freight service—box cars, 1; flat cars, 2; hand cars, 2; total cars owned, 6. Coach has Miller hook automatic coupler, and box car California automatic coupler. Flat cars are very seldom used, and have regular drawhead coupler.

## MILEAGE OF ROAD OPERATED.

Miles of single track, 7.5; miles of yard track and sidings, 0.4; total mileage operated 7.9. Line is in California The rails are steel.

## NEW TIES LAID DURING YEAR.

New ties laid, 710, mostly fir and cedar; some pine. Average price at distributing point, 21 cents.

## CONSUMPTION OF FUEL BY LOCOMOTIVE.

In running 11,534 miles, locomotive consumed 400 cords of soft wood (200 tons fuel). Average price at distributing point, \$4 per cord.

Consumption of fuel based on an average of what we regularly consume. No record kept upon which to base actual consumption. Due allowance made for extra running.

## ACCIDENTS.

No accidents to speak of; some small derailments, but none of consequence. No injuries sustained.

## CHARACTERISTICS OF ROAD.

Montague to Yreka: Length, 7.9 miles; number of curves, 32; aggregate length of curved line, 25,278 feet; length of straight line, 14,178 feet; length of level line, 1,250 feet; number of ascending grades, 1; sum of ascents, 282.89 feet; aggregate length of ascending grades, 14,300 feet; number of descending grades, 2; sum of descents, 216.24 feet; aggregate length of descending grades, 24,957 feet.

Bridges: Wooden, 1; 80-foot span.

Trestles: 7; aggregate length, 826 feet.

Gauge of track: 4 feet 8½ inches; length, 7.5 miles.

## CAR MILEAGE.

Mileage is paid the Southern Pacific Company for use of freight cars.

STATE OF CALIFORNIA, }  
County of Siskiyou. } ss.

We, the undersigned, Jerome Churchill, President, and J. T. Schultz, Superintendent, of the Yreka Railroad Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JEROME CHURCHILL,  
President.  
J. T. SCHULTZ,  
Superintendent.

Subscribed and sworn to before me this 19th day of August, 1896.

JAS. R. TAPSCOTT,  
Notary Public in and for Siskiyou County, Cal.



## VISALIA RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Visalia Railroad Company.
2. Date of organization: May 24, 1874.
3. Under laws of what Government, State, or Territory organized: State of California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
R. E. Hyde.....	Visalia.
S. Sweet.....	San Francisco.
E. Jacob.....	Visalia.
L. C. Hyde.....	Visalia.
S. Mitchell.....	Visalia.

Date of expiration of terms of Directors: June, 1897.  
 Number of stockholders at date of last election: 5.  
 Last meeting of stockholders for election of Directors: June 13, 1896.  
 Post Office address of general office: Visalia.

## OFFICERS.

Title.	Name.	Location of Office.
President.....	R. E. Hyde.....	Visalia.
Vice-President.....	S. Sweet.....	San Francisco.
Secretary.....	Julius Levy.....	Visalia.
Treasurer.....	E. Jacob.....	Visalia.

## PROPERTY OPERATED.

Name.	Terminals.	Miles.
Visalia Railroad.....	Visalia to Goshen.....	8

## CAPITAL STOCK.

Amount of capital stock, \$100,000; number of shares, 1,000; par value of shares, \$100; amount issued and outstanding, \$100,000.

## RECAPITULATION.

*For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Miles.	Amount per Mile of Line.
Capital stock.....	\$100,000 00	8	\$20,985 21

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

The total cost of road, equipment, and improvements to June 30, 1896, is \$167,616 97.

## INCOME ACCOUNT.

Gross earnings from operation .....	\$15,564 37	
Less operating expenses.....	11,516 00	
Total income .....		\$4,048 37
Surplus on June 30, 1896.....		\$104,048 37
Deficit on June 30, 1896 .....		284,765 34

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Actual Earnings.
Passenger revenue.....	\$6,577 40	
Mail.....	283 96	
Express .....	707 25	
Total passenger earnings .....		\$7,568 61
Freight earnings .....		7,995 76
Total gross earnings from operation.....		\$15,564 37

## RAILWAY STOCKS OWNED.

Name.	Par Value.
R. E. Hyde.....	\$43,500 00
S. Sweet.....	31,100 00
E. Jacob.....	24,700 00
L. C. Hyde.....	400 00
S. Mitchell .....	300 00

## MISCELLANEOUS INCOME.

Item.	Gross Income.	Less Expenses.	Net Income.
Fares .....	\$6,577 40		
Freights .....	7,995 76		
Mail.....	283 96		
Express .....	707 25		
Salaries .....		\$7,318 00	
Carr. to Southern Pacific R. R. ....		808 00	
Fuel.....		1,400 00	
Station supplies.....		500 00	
Maintenance of equipment.....		990 00	
Conducting transportation.....		500 00	
Totals .....	\$15,564 37	\$11,516 00	\$4,048 37

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$540 00
Repairs and renewals of combination cars .....	250 00
Other expenses .....	200 00
Total .....	\$990 00
Conducting transportation:	
Engine and roundhouse men .....	\$1,200 00
Fuel for locomotives .....	1,400 00
Oil, tallow, and waste for locomotives .....	150 00
Train service .....	6,118 00
Station supplies .....	500 00
Car mileage—balance .....	808 00
Stationery and printing .....	350 00
Total .....	\$11,516 00

## COMPARATIVE GENERAL BALANCE SHEET.

Assets.	June 30, 1896.	Liabilities.	June 30, 1896.
Cost of road .....	\$167,616 97	Capital stock .....	\$100,000 00
Stocks owned .....	100,000 00	Profit and loss .....	4,048 37
Lands owned .....	9,100 00		
Materials and supplies .....	4,000 00		
Profit and loss .....	4,048 37		
Total .....	\$284,765 34	Total .....	\$104,048 37

## CONTRACTS, AGREEMENTS, ETC.

Express matters are carried at \$5 per ton.

Mail at Government contract.

No contracts, agreements, or arrangements with any transportation, railroad, steam-boat (as Visalia is an inland town), telegraph, or telephone company or companies.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Yearly Compensation.
General officers .....	3	None.
Station agent .....	1	\$1,020 00
Engineman .....	1	1,200 00
Conductor .....	1	840 00
Other trainman .....	1	720 00
Section foreman .....	1	1,080 00
Other trackmen .....	4	1,558 00
All other employés and laborers .....	2	900 00
Totals .....	14	\$7,318 00

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue .....	14,616	
Average distance carried—miles .....	8	
Total passenger revenue .....		\$6,577 40
Average amount received from each passenger .....		45
Average receipts per passenger per mile .....		5 <sup>5</sup> / <sub>8</sub>
Total passenger earnings .....		6,577 40
Freight traffic:		
Number of tons carried of freight earning revenue .....	8,756.5	
Total freight revenue .....		7,995 76
Average amount received for each ton of freight .....		91
Average receipts per ton per mile .....		11
Total freight earnings .....		7,995 76

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road— Tons.	Received from Connecting Roads—Tons.
Products of agriculture:		
Grain .....	297	12.5
Flour .....	12	75.5
Other mill products .....	224.5	
Hay .....	180.5	
Products of animals:		
Live stock .....	1,550	10
Hides and leather .....	20	
Products of mines:		
Anthracite coal .....	32	
Bituminous coal .....		66.5
Products of forest:		
Lumber .....	12	691
Wood .....	304	
Manufactures:		
Petroleum and other oils .....		24
Sugar .....		51.5
Iron and steel rails .....	15.5	
Other castings and machinery .....	10	39
Cement, brick, and lime .....		93
Wines, liquors, and beers .....		267.5
Household goods and furniture .....		10
Merchandise .....	1,664	2,056.5
Miscellaneous: Other commodities not mentioned above .....	124	914
Total tonnage .....	4,445.5	4,311.0

Total freight movement, 8,756.5 tons.



## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives owned and in service:	
Passenger, freight, and switching.....	3
Cars in passenger service:	
Second-class cars.....	1
Combination cars.....	1
Total .....	2

## MILEAGE OF ROAD OPERATED.

Line in Use.	Main Line.	Branches and Spurs.	All Tracks.
Miles of single track .....	7 $\frac{2}{3}$	$\frac{1}{3}$	8

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

In running 48 miles, all locomotives consumed 4.25 cords of hard wood.

## CHARACTERISTICS OF ROAD.

Visalia to Goshen, 8 miles.

Telegraph: 8 miles of line and wire owned and operated by this company.

STATE OF CALIFORNIA, }  
County of Tulare. } ss.

We, the undersigned, R. E. Hyde, President, and Julius Levy, Secretary, of the Visalia Railroad Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

R. E. HYDE,  
President.  
JULIUS LEVY,  
Secretary.

Subscribed and sworn to before me, this 5th day of August, 1896.

C. J. GIDDINGS,  
Notary Public in and for Tulare County, California.

# SAN FRANCISCO & SAN JOAQUIN VALLEY RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: The San Francisco & San Joaquin Valley Railway Company.

2. Date of organization: February 20, 1895.

3. Under laws of what Government, State, or Territory organized: California.

## ORGANIZATION.

Names of Directors: Claus Spreckels, Robert Watt, Capt. A. H. Payson, Charles Holbrook, Leon Sloss, Thomas Magee, Isaac Upham, W. F. Whittier, J. D. Spreckels, J. B. Stetson, and Alvinza Hayward; all of San Francisco.

Date of expiration of terms of Directors: Annual meeting July 21, 1896.

Number of stockholders at date of last election: 588.

Last meeting of stockholders for election of Directors: February 20, 1895.

Post Office address of general office: 321 Market Street, San Francisco.

Name and address of officer to whom correspondence regarding this report should be addressed: Alexander Mackie, Secretary, 321 Market Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President.	Claus Spreckels.....	San Francisco.
First Vice-President.....	Robert Watt.....	San Francisco.
Second Vice-President.....	Capt. A. H. Payson.....	San Francisco.
Secretary.....	Alexander Mackie.....	San Francisco.
Treasurer.....	Bank of California.....	San Francisco.
General Solicitor.....	E. F. Preston.....	San Francisco.
Chief Engineer.....	W. B. Storey, Jr.....	San Francisco.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$6,000,000, divided into 60,000 shares of a par value of \$100 each. None issued to the public, except 50 shares to each of the Directors; balance (\$2,435,800) to trustees. No dividends were declared during the year.

## MANNER OF PAYMENT FOR CAPITAL STOCK.

	Number of Shares Issued.	Cash Realized on Amount Issued.	Number Shares Issued and Outstanding.	Cash Realized.
Issued for cash.....	24,358	\$1,728,630 00	24,358	\$1,728,630 00
Donations.....	-----	7,000 00	-----	7,000 00
Totals.....	24,358	\$1,735,630 00	24,358	\$1,735,630 00

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash.....	\$124,861 33	Audited vouchers and ac- counts.....	\$113,206 31
Bills receivable.....	16 93	Total current liabilities..	\$113,206 31
		Balance—cash assets .....	11,671 95
Total .....	\$124,878 26	Total .....	\$124,878 26

## RECAPITULATION.

*For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Apportionment to Railroads.	Miles.
Capital stock .....	\$2,435,800 00	\$2,435,800 00	*350

\* Building and projected.

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.
Construction:	
Right of way .....	\$102,223 32
Fences .....	21,182 41
Grading, and bridge and culvert masonry .....	130,387 76
Bridges and trestles .....	215,892 31
Rails .....	330,063 89
Ties .....	128,322 54
Other superstructure .....	187,518 99
Buildings, furniture, and fixtures .....	7,934 16
Shop machinery and tools .....	4,131 44
Engineering expenses .....	71,513 32
Telegraph line .....	3,691 06
Sidings and yard extensions .....	23,115 51
Other items .....	28,725 53
Total construction .....	\$1,304,702 24
Equipment:	
Locomotives .....	\$30,085 93
Freight cars .....	158,345 69
Other cars of all classes .....	10,427 20
Total equipment .....	\$198,858 82
Total cost construction, equipment, etc .....	\$1,503,561 06

## COMPARATIVE GENERAL BALANCE SHEET.

Assets.	June 30, 1896.	Liabilities.	June 30, 1896.
Cost of road .....	\$1,304,702 24	Capital stock .....	\$1,728,630 00
Cost of equipment .....	198,858 82	Donations .....	7,000 00
Other permanent investments .....	221,983 02	Current liabilities .....	113,206 31
Cash and current assets .....	124,878 26	Miscellaneous .....	1,591 03
Total .....	\$1,850,427 34	Total .....	\$1,850,427 34

## EMPLOYÉS AND SALARIES.

There are no operating officers.

## DESCRIPTION OF EQUIPMENT.

Added during year: Locomotives, 3; cars in construction service—box cars, 50; flat cars, 250; tank cars, 3; total, 303.

## MILEAGE.

This company operates no line for transportation.

## CHARACTERISTICS OF ROAD.

The road is building. No working divisions are established, the road not being operated, except for construction work.

Bridges, trestles, tunnels, etc.: Building.

Gauge of track: 4 feet 8½ inches.

Telegraph: When built, will be operated by the San Francisco & San Joaquin Valley Railway Company.

STATE OF CALIFORNIA, }  
City and County of San Francisco. } ss.

We, the undersigned, Robt. Watt, Vice-President, and Alexander Mackie, Secretary of the San Francisco & San Joaquin Valley Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

ROBT. WATT,  
Vice-President.  
ALEXANDER MACKIE,  
Secretary.

Subscribed and sworn to before me, this 28th day of September, 1896.

N. E. W. SMITH,  
Notary Public in and for the City and County of San Francisco, State of California.



## CRESCENT CITY &amp; SMITH RIVER RAILROAD.

## HISTORY.

1. Name of common carrier making this report: Crescent City & Smith River Railroad.

2. Date of organization: Not a corporation.

3. Under laws of what Government, State, or Territory organized: State of California.

This is a private logging road belonging to the firm of Hobbs, Wall & Co., and is an adjunct of their other business interests in Del Norte County, in connection with their logging, sawmilling, and general merchandising business. The accounts and work are to some extent mixed and kept in the same books as the store, sawmilling, and logging work, and by the same employes. Hence figures and details are not in every case full. The traffic is principally the firm's own business, that for outside parties forming but a small percentage of the whole.

The passenger traffic, which originally was quite fair, while the novelty lasted, has fallen off to such an extent that the daily train had to discontinue for a period of six months (January 1 to July 1, 1896), the expense being greater than the income.

## ORGANIZATION.

The firm of Hobbs, Wall & Co., is the sole owner of the property, which is not incorporated.

Post Office address of general and operating offices: Crescent City, California.

Name and address of officer to whom correspondence regarding this report should be addressed: J. Marhoffer, Manager, Crescent City, California.

## OFFICERS.

There are no officers specially retained for railroad business in the employ of the firm.

## PROPERTY OPERATED.

Crescent City & Smith River Railroad: From Crescent City to Smith River, 13.75 miles; from Junction to Fort Dick, 2.60 miles; total line operated, 16.35 miles.

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost per Mile.
Construction:				
Right of way—3 miles, 75 feet.....		\$4,207 90	\$4,207 90	\$1,403 00
Fences—2 miles.....	\$97 13	390 19	487 32	243 66
Grading, and bridge and culvert masonry.....		83,301 69	83,301 69	5,095 00
Bridges and trestles.....		49,520 66	49,520 66	
Rails.....		66,580 54	66,580 54	4,000 00
Ties.....		6,793 57	6,793 57	411 00
Other superstructure.....		38,504 18	38,504 18	2,363 00
Buildings, furniture, and fixtures.....		6,528 66	6,528 66	
Engineering expenses.....		9,784 75	9,784 75	593 00
Telegraph line.....		581 67	581 67	35 00
Sidings and yard extensions.....		8,671 41	8,671 41	5,420 00
Total construction.....	\$97 13	\$274,865 22	\$274,962 35	
Equipment:				
Locomotives.....		\$13,468 69	\$13,468 69	
Combination cars.....		2,863 44	2,863 44	
Freight cars.....		1,415 00	1,415 00	
Other cars of all classes.....		21,117 57	21,117 57	
Total equipment.....		\$38,864 70	\$38,864 70	
Total cost construction, equipment, etc.....	\$97 13	\$313,729 92	\$313,827 05	

## INCOME ACCOUNT.

Gross earnings from operation .....	\$16,912 38	
Less operating expenses .....	7,399 57	
Total income .....		\$9,012 81
Deductions from income:		
Interest on proportionate indebtedness* .....	\$6,500 00	
Taxes .....	1,654 87	
Total deductions from income .....		8,154 87
Net income .....		\$857 94

\* Proportion of whole interest charge of the firm's indebtedness in Del Norte County.

## EARNINGS FROM OPERATION.

Item.	Annual Earnings.
Passenger earnings .....	\$1,148 00
Freight earnings .....	15,764 38
Total gross earnings from operation .....	\$16,912 38

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$1,125 15
Renewals of ties .....	800 00
Repairs and renewals of bridges and culverts .....	100 00
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	100 00
Other expenses .....	89 35
Total .....	\$2,014 50
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$500 00
Repairs and renewals of freight cars .....	226 18
Total .....	\$726 18
Conducting transportation:	
Engine and roundhouse men .....	1,550 00
Fuel for locomotives .....	408 32
Oil, tallow, and waste for locomotives .....	124 00
Other supplies for locomotives .....	130 12
Train service .....	1,502 13
Train supplies and expenses .....	42 72
Station service .....	229 00
Station supplies .....	31 60
Total .....	\$4,558 89
General expenses:	
Salaries of clerks and attendants .....	\$800 00
Recapitulation of expenses:	
Maintenance of way and structures .....	\$2,014 50
Maintenance of equipment .....	726 18
Conducting transportation .....	4,558 89
General expenses .....	800 00
Grand total .....	\$7,399 57
Percentage of operating expenses to earnings .....	46.75



## Description of Equipment.

Item.	Number of	
	Locomotives.	Cars.
Locomotives in service		
Freight		2
Cars in passenger service		
Commodition cars		1
Cars in freight service		
Box cars		1
Stock cars		4
Other cars		24
Total		32
Cars in company's service		
Road cars		1
Total cars owned and in service		33

Locomotives are equipped with steam train brakes, and cars with train brakes.

## Mileage of Road Operation.

Line of proprietary companies: Single track, 16.5 miles; yard track and sidings, 1.80 miles; total, 18.30 miles.

## Consumption of Fuel by Locomotives.

Locomotives consumed 80 cords of soft wood, average cost at distributing point 68 cents per cord. No record of miles run.

## Characteristics of Road.

Working Divisions or Branches.	Miles.	Alignment.			Profile.	
		Number of Curves.	Aggregate length of all curved lines—Miles.	Length of Straight line—Miles.	Length of level line—Miles.	
Crescent City to Smith River	16.75	16	1.80	14.95	4.00	
Junction to Fort Dick	1.55	3	.80	1.10	1.00	
Totals	18.30	21	2.60	16.05	5.00	

## Profile.

Working Divisions or Branches.	Number of Ascending grades.	Sum of Ascending grades—Feet.	Aggregate length of all ascending grades—Miles.	Number of Descending grades.	Sum of Descending grades—Feet.	Aggregate length of all descending grades—Miles.
Crescent City to Smith River	16	800	4.80	16	800	4.00
Junction to Fort Dick				3	60	1.80
Totals	16	800	4.80	21	860	5.80



## BRIDGES, TRESTLES, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges: Combination .....	2	800 feet.	70 feet.	730 feet
Trestles .....	14	2,280 feet.	10 feet.	1,020 feet

Gauge of track, 4 feet 8½ inches; length, 16.35 miles.

## TELEPHONE.

Hobbs, Wall & Co. own and operate 17 miles of private telephone.

STATE OF CALIFORNIA, }  
County of Del Norte. } ss.

I, the undersigned, General Manager of the Crescent City & Smith River Railroad, on my oath, do say that the foregoing return has been prepared, under my direction, from the original books, papers, and records of said railroad; that I have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said railroad in respect to each and every matter and thing therein set forth, to the best of my knowledge, information, and belief; and I further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said railroad during the period for which said return is made.

J. MARHOFFER,  
Manager.

Subscribed and sworn to before me, this 14th day of July, 1896.

L. F. COOPER,  
Notary Public in and for Del Norte County, Cal.

## SANTA ANA &amp; NEWPORT RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: Santa Ana & Newport Railway Company.
2. Date of organization: November 7, 1892.
3. Under laws of what Government, State, or Territory organized: State of California.

## ORGANIZATION.

Names of Directors: James McFadden, Robert McFadden, W. H. Spurgeon, M. M. Crookshank, E. M. Smiley; all of Santa Ana, Cal.

Date of expiration of terms of Directors: January 16, 1897.

Number of stockholders at date of last election: 7.

Last meeting of stockholders for election of Directors: January 20, 1896.

Post Office address of general and operating offices: Santa Ana, California.

Name and address of officer to whom correspondence regarding this report should be addressed: E. M. Smiley, Secretary and Auditor, Santa Ana, California.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President ..	James McFadden .....	Santa Ana, Cal.
Vice-President .....	Robert McFadden .....	Santa Ana, Cal.
Secretary .....	E. M. Smiley .....	Santa Ana, Cal.
Treasurer .....	Frank Chilton .....	Santa Ana, Cal.
Attorney, or General Counsel .....	Jas. G. Scarborough .....	Los Angeles.
Auditor .....	E. M. Smiley .....	Santa Ana, Cal.
General Manager .....	James McFadden .....	Santa Ana, Cal.
General Freight Agent .....	A. J. Crookshank .....	Los Angeles.
General Passenger Agent .....	Robert McFadden .....	Santa Ana, Cal.

## PROPERTY OPERATED.

This company operates the Santa Ana & Newport Railway, from Santa Ana to Newport, a distance of 12.10 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$500,000, divided into 5,000 shares of a par value of \$100 each. Total amount issued and outstanding, \$20,000. No dividends were declared during the year.

Manner of payment for capital stock: Issued for cash, 200 shares; total cash realized, \$20,000.

## FUNDED DEBT.

January 1, 1893, first mortgage bonds to the amount of \$250,000 were authorized to be issued, were issued, and that amount of cash realized on the issue. The entire amount is outstanding. The bonds mature on January 1, 1913, and bear 6 per cent interest, payable semi-annually. Interest accrued during year, \$15,000, all of which was paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.	Interest Accrued During Year.	Interest Paid During Year.
Mortgage bonds.....	\$250,000 00	\$250,000 00	\$15,000 00	\$15,000 00

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash.....	\$92 79	Loans and bills payable.....	\$1,994 26
Due from solvent companies and individuals.....	23,000 00	Wages and salaries.....	902 50
Net traffic balances due from other companies.....	527 00	Rents due July 1.....	362 50
Other cash assets.....	1,077 84	Total current liabilities.....	\$3,259 26
Total.....	\$24,697 63	Balance—cash assets.....	21,438 37
		Total.....	\$24,697 63

Materials and supplies on hand, \$188 63.

## RECAPITULATION.

*For Mileage Owned by Road Making this Report.*

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock.....	\$20,000 00	\$20,000 00	12.10	\$1,652 90
Bonds.....	250,000 00	250,000 00		20,661 15
Totals.....	\$270,000 00	\$270,000 00	12.10	\$22,314 05

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

We purchased the road and equipments complete for \$262,000, and have since the time of purchase added \$21,617 98 to the investment.

## INCOME ACCOUNT.

Gross earnings from operation.....	\$62,444 43	
Less operating expenses.....	37,664 88	
Total income.....		\$24,779 55
Deductions from income:		
Interest on funded debt accrued.....	\$15,000 00	
Taxes.....	675 31	
Total deductions from income.....		15,675 31
Surplus from operations of year ending June 30, 1896.....		\$9,104 24
Surplus on June 30, 1895.....		\$26,140 74
Additions for year.....		9,104 24
Surplus on June 30, 1896.....		\$35,244 98

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions.	Actual Earnings.
Passenger earnings.....			\$2,731 17
Freight revenue.....	\$36,078 55		
Less overcharge to shippers.....		\$856 87	
Other repayments.....		564 45	
Total deductions.....		\$1,421 32	
Total freight earnings.....			34,657 23
Total passenger and freight earnings.....			\$37,388 40
Other earnings from operation:			
Switch charges—balance.....	\$14 00		
Company's telephone line.....	20 35		
Other sources—handling freight from cars to vessel and from vessel to cars.....	25,021 68		
Total other earnings.....			25,056 03
Total gross earnings from operation.....			\$62,444 43

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway.....	\$2,505 96
Renewals of rails.....	79 88
Renewals of ties.....	22 60
Repairs and renewals of bridges, culverts, docks, and wharves.....	4,516 56
Repairs and renewals of buildings and fixtures.....	4 80
Repairs and renewals of telephone line.....	2 50
Other expenses.....	1,155 25
Total.....	\$8,287 55
Maintenance of equipment:	
Repairs and renewals of locomotives.....	\$3,228 21
Repairs and renewals of passenger cars.....	116 04
Repairs and renewals of freight cars.....	189 93
Repairs and renewals of shop machinery and tools.....	170 52
Total.....	\$3,704 70
Conducting transportation:	
Engine and roundhouse men.....	\$3,798 55
Fuel for locomotives.....	4,229 61
Water supply for locomotives.....	42 00
Oil, tallow, and waste for locomotives.....	176 02
Train service.....	1,200 00
Train supplies and expenses.....	63 75
Switchmen, flagmen, and watchmen.....	734 20
Station service.....	9,543 03
Station supplies.....	73 15
Car mileage—balance (rental).....	921 40
Loss and damage.....	72 96
Outside agencies.....	600 00
Stationery and printing.....	245 21
Total.....	\$21,699 88
General expenses:	
Salaries of general officers.....	\$2,562 50
Salaries of clerks and attendants.....	720 00
General office expenses and supplies.....	147 80
Law expenses.....	480 00
Stationery and printing (general offices).....	62 45
Total.....	\$3,972 75
Recapitulation of expenses:	
Maintenance of way and structures.....	\$8,287 55
Maintenance of equipment.....	3,704 70
Conducting transportation.....	21,699 88
General expenses.....	3,972 75
Grand total.....	*\$37,664 88
Percentage of operating expenses to earnings.....	52.00
*Account handling freight from vessel to car and from car to vessel.....	\$12,681 60
*Account line expenses.....	24,983 28
Total.....	\$37,664 88



## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.
\$274,305 91	Cost of road and equipment .....	\$283,617 98	\$9,312 07
22,360 83	Cash and current assets .....	24,697 63	2,336 80
	Materials and supplies .....	188 63.	188 63
\$296,666 74	Totals .....	\$308,504 24	\$11,837 50
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.
\$20,000 00	Capital stock .....	\$20,000 00	
250,000 00	Funded debt .....	250,000 00	
526 00	Current liabilities .....	3,259 26	\$2,733 26
26,140 74	Profit and loss .....	35,244 98	9,104 24
\$296,666 74	Totals .....	\$308,504 24	\$11,837 50

## CONTRACTS, AGREEMENTS, ETC.

Have agreements with the Pacific Coast Steamship Company and the Southern California Railway Company for the interchange of business.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount per Mile of Line.	What Equip- ment Mortgaged.
First mortgage bonds.....	Santa Ana to Newport..	12.10	\$20,661 15	All.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Days Worked.	Yearly Com- pensation.	Average Daily Compensation.
General officers .....	2	625	\$2,562 50	\$4 10
Attorney .....	1	312	480 00	1 54
General office clerks .....	1	312	720 00	2 31
Station agents .....	2	625	1,575 00	2 52
Other station men .....	1	6	12 00	2 00
Enginemen .....	3	756	3,024 00	4 00
Firemen .....	2	495	990 55	2 00
Conductors .....	1	312	1,200 00	3 84
Other trainmen .....	1	19	38 00	2 00
Machinists .....	2	323	969 00	3 00
Section foremen .....	1	282	676 80	2 40
Other trackmen .....	5	1,220	1,829 16	1 50
Switchmen, flagmen, and watchmen .....	2	348	696 20	2 00
All other employés and laborers .....	22	3,978	7,956 03	2 00
Agency .....	1	300	600 00	2 00
Total (including general officers) .....	47	9,913	\$23,329 24	\$2 35½
Less general officers .....	2	625	2,562 50	4 10
Total (excluding general officers) .....	45	9,288	\$20,766 74	\$2 23½
Distribution of above:				
General administration .....	5	1,549	\$4,362 50	\$2 81
Maintenance of way and structures .....	6	1,502	2,505 96	1 67
Maintenance of equipment .....	2	347	1,185 00	3 42
Conducting transportation .....	34	6,515	15,275 78	2 34½
Total (including general officers) .....	47	9,913	\$23,329 24	\$2 35½
Less general officers .....	2	625	2,562 50	4 10
Total (excluding general officers) .....	45	9,288	\$20,766 74	\$2 23½

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue .....	12,564	
Number of passengers carried one mile .....	151,664	
Number of passengers carried one mile per mile of road .....	12,534	
Average distance carried—miles .....	12.07	
Total passenger revenue .....		\$2,731 17
Average amount received from each passenger .....		21.738
Average receipts per passenger per mile .....		1.796
Total passenger earnings .....		2,731 17
Passenger earnings per mile of road .....		225 71.652
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue .....	62,520	
Number of tons carried one mile .....	737,736	
Number of tons carried one mile per mile of road .....	60,969	
Average distance haul of one ton—miles .....	11.80	
Total freight revenue .....		34,657 23
Average amount received for each ton of freight .....		55.433
Average receipts per ton per mile .....		4.697
Total freight earnings .....		34,657 23
Freight earnings per mile of road .....		2,864 23.388
<b>Passenger and freight:</b>		
Passenger and freight revenue .....		37,388 40
Passenger and freight revenue per mile of road .....		3,089 95.041
Passenger and freight earnings .....		37,388 40
Passenger and freight earnings per mile of road .....		3,089 95.041
Gross earnings from operation .....		37,422 75
Gross earnings from operation per mile of road .....		3,092 78.925
Operating expenses .....		24,983 28
Operating expenses per mile of road .....		2,064 73.388
Income from operation .....		9,104 24
Income from operation per mile of road .....		752 41

We have no record of train mileage.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.	Received from Con- necting Car- riers—Tons.	Total Freight Tonnage.	Per Cent.
<b>Products of agriculture:</b>				
Grain .....	1,966	802	2,768	4.43
Flour .....		1,567	1,567	2.51
Other mill products .....		41	41	.07
Hay .....	78		78	.12
Fruit and vegetables .....	629	237	866	1.39
Beans .....		1,728	1,728	2.77
<b>Products of animals:</b>				
Live stock .....	2		2	.01
Other packing-house products .....		4	4	.01
Poultry, game, and fish .....	61		61	.10
Hides and leather .....		6	6	.01
<b>Products of mines:</b>				
Anthracite coal .....		11	11	.02
Bituminous coal .....		14	14	.03
Stone, sand, and other like articles .....		12	12	.02
Asphaltum .....		35	35	.06
<b>Products of forest:</b>				
Lumber .....	229	52,047	52,276	83.62
Box shooks .....		871	871	1.39
Staves .....		31	31	.05

## FREIGHT TRAFFIC MOVEMENT—Continued.

Commodity.	Originating on this Road—Tons.	Received from Con- necting Car- riers—Tons.	Total Freight Tonnage.	Per Cent.
Manufactures:				
Petroleum and other oils.....		9	9	.01
Sugar.....		377	377	.61
Iron, pig and bloom.....		11	11	.02
Iron and steel rails.....		87	87	.13
Other castings and machinery.....		22	22	.03
Bar and sheet metal.....		39	39	.06
Cement, brick, and lime.....		63	63	.09
Agricultural implements.....		14	14	.02
Wagons, carriages, tools, etc.....		8	8	.01
Wines, liquors, and beers.....		173	173	.27
Household goods and furniture.....	9	57	66	.10
Grain bags.....		202	202	.32
Merchandise.....	63	221	284	.45
Miscellaneous: Other commodities not mentioned above.....	127	667	294	1.27
Total tonnage.....	3,164	59,356	62,520	100.00

## DESCRIPTION OF EQUIPMENT.

Item.	Number Added During Year.	Number at End of Year.	With Train Brake.	Name of Brake.
Total locomotives in service.....		3	2	Westinghouse.
Cars in passenger service:				
First-class cars.....	2	2	2	Vacuum.
Second-class cars.....		1	1	Vacuum.
Combination cars.....	1	2	2	Vacuum.
Total.....	3	5	5	
Cars in freight service:				
Box cars.....		2	2	Westinghouse.
Flat cars.....		10	7	Westinghouse.
Total.....		12	9	
Cars in company's service:				
Gravel cars.....		6		
Total cars owned and in service.....		23		

## MILEAGE OF ROAD OWNED AND OPERATED.

Line in Use.	Mileage Operated.	Steel Rails.
Miles of single track.....	12.10	12.10
Miles of yard track and sidings.....	1.55	1.55
Total mileage operated (all tracks).....	13.65	13.65

All road owned and operated is in California.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives consumed 367 tons of bituminous coal and 1,750 bbls. oil. Average cost at distributing point: Coal, \$8 per ton; oil, 75 cents per bbl. Miles run and average pounds consumed per mile—don't know.

## CHARACTERISTICS OF ROAD.

Santa Ana to Newport: Length of line, 12.10 miles; number of curves, 9; aggregate length of curved line, 1.60 miles; length of straight line, 10.50 miles; length of level line, 1.60 miles; number of ascending grades, 4; sum of ascending grades, 82 feet; aggregate length of ascending grades, 4.75 miles; number of descending grades, 3; sum of descending grades, 191; aggregate length of descending grades, 5.75 miles.

Gauge of track, 4 feet 8½ inches.

Bridges: Wooden, 3; aggregate length, 700 feet; minimum length, 40 feet; maximum length, 600 feet.

Telephone: 11 miles, owned and operated by this company.

STATE OF CALIFORNIA, }  
County of Orange, } ss.

We, the undersigned, James McFadden, President, and E. M. Smiley, Secretary, of the Santa Ana & Newport Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JAMES MCFADDEN,  
President.  
E. M. SMILEY,  
Secretary.

Subscribed and sworn to before me, this 19th day of September, 1896.

H. T. MATTHEWS,  
Notary Public in and for said Orange County, State of California.

## ALAMEDA &amp; SAN JOAQUIN RAILROAD COMPANY.

[For the year ending March 31, 1896.]

## HISTORY.

1. Name of common carrier making this report: Alameda & San Joaquin Railroad Company.
2. Date of organization: May 1, 1895.
3. Under laws of what Government, State, or Territory organized: Under the laws of the State of California.
4. If a consolidated company, name the constituent companies: Not consolidated.
6. If a reorganized company, give name of original corporation, and refer to laws under which it was organized: Not reorganized.

## ORGANIZATION.

Names of Directors.	Post Office Address.
R. D. Fry .....	328 Montgomery Street, San Francisco.
H. A. Williams .....	116 California Street, San Francisco.
J. Dalzell Brown .....	California and Montgomery Streets, San Francisco.
Jno. Treadwell .....	328 Montgomery Street, San Francisco.
B. M. Bradford .....	328 Montgomery Street, San Francisco.

Date of expiration of terms of Directors: March 10, 1897.

Total number of stockholders at date of last election: 6.

Date of last meeting of stockholders for election of Directors: March 10, 1896.

Post Office address of general and operating offices: 328 Montgomery Street, San Francisco.

Name and address of officer to whom correspondence regarding this report should be addressed: Jno. Treadwell, General Manager, 328 Montgomery Street, San Francisco.



## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President .....	R. D. Fry .....	328 Montgomery St., San Francisco.
Vice-President .....	H. A. Williams .....	116 California St., San Francisco.
Secretary .....	B. M. Bradford .....	328 Montgomery St., San Francisco.
Treasurer .....	J. Dalzell Brown .....	California and Montgomery Streets, San Francisco.
Attorney, or General Counsel .....	Gunnison, Booth & Barnett .....	328 Montgomery St., San Francisco.
General Manager .....	Jno. Treadwell .....	328 Montgomery St., San Francisco.
Chief Engineer .....	George A. Atherton .....	Stockton, Cal.
General Agent .....	H. E. Barber .....	Stockton, Cal.
Superintendent of Construction .....	Hugh Foy .....	Stockton, Cal.

## PROPERTY OPERATED.

Alameda & San Joaquin Railroad is operated from Stockton to Corral Hollow, a distance of 36 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$500,000, divided into 5,000 shares of a par value of \$100 each. Total amount issued and outstanding, \$500,000. No dividends were declared during the year.

Manner of payment for capital stock: Issued for cash, 5,000 shares; cash realized, \$500,000. All shares are outstanding. Total cash realized, \$500,000.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including March 31, 1896.	
Cash .....	\$31,684 41	Wages and salaries (estimated) .....	\$7,000 00
Bills receivable .....	50,000 00	Miscellaneous .....	5,000 00
Total cash and current assets .....	\$81,684 41		
Balance—current liabilities .....	12,000 00		
Total .....	\$69,684 41	Total .....	\$12,000 00

Materials and supplies on hand, \$20,000.

## RECAPITULATION.

## A. For Mileage Owned by Road Making this Report.

Account.	Amount Outstanding.	Apportionment to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$500,000 00	\$500,000 00	36	\$13,888 89
Current liabilities .....	12,000 00	12,000 00		
Totals .....	\$512,000 00	\$512,000 00	36	

## B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.

Name of Road.	Capital Stock.	Current Liabilities.	Total.	Miles.	Amount per Mile of Line.
Alameda & San Joaquin Railroad .....	\$500,000 00	\$12,000 00	\$512,000 00	36	\$13,888 89

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.
Construction:	
Right of way .....	\$31,797 17
Other real estate .....	25,000 00
Fences, grading, and bridge and culvert masonry, and bridges and trestles .....	164,156 16
Rails .....	137,079 86
Ties .....	23,804 79
Interest during construction .....	224 08
Other items .....	4,411 96
Total construction .....	\$386,474 02
Equipment:	
Freight cars .....	29,979 62
Other cars of all classes .....	840 00
Floating equipment (steam shovel, etc.) .....	998 49
Rail-bender .....	118 75
Total equipment .....	\$31,936 86
Total cost construction, equipment, etc. ....	\$418,410 88

Item of land owned by this company is included in cost of road, as same is used for terminal facilities.

## COMPARATIVE GENERAL BALANCE SHEET.

Assets.	March 31, 1896.	Liabilities.	March 31, 1896.
Cost of road .....	\$386,474 02	Capital stock .....	\$500,000 00
Cost of equipment .....	31,936 86	Profit and loss .....	95 29
Cash and current assets .....	81,684 41		
Total .....	\$500,095 29	Total .....	\$500,095 29

## EMPLOYÉS AND SALARIES.

Salaries of all employés during construction are charged to construction account; these include only Superintendent of Construction, Chief Engineer, and Agent and Secretary.

## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives: Leased and in service .....	1
Cars in freight service:	
Flat cars .....	40
Coal cars .....	6
Other cars in freight service .....	20
Total cars in service .....	66
Less cars leased .....	20
Total cars owned .....	46

The company also has 14 coal cars, which are fully paid for, now on the road from Chicago, and 2 locomotives are also about ready for shipment.

## MILEAGE OF ROAD OWNED AND OPERATED.

Miles of single track (main line), 36.10; steel rails, 36.10 miles. All built during the year, and all in California.

## CONSUMPTION OF FUEL BY LOCOMOTIVE.

Consumption of fuel on locomotive has not been segregated from that used on stationary engine and steam shovel. Whole amount consumed (bituminous coal), 640 tons.

## ACCIDENTS TO PERSONS.

Conductor of construction train had his leg badly injured by getting it under the pilot of engine.

## CHARACTERISTICS OF ROAD.

The road is not yet laid out into working divisions. The first 25 miles of road is practically level; the balance is from 15 to 68 feet to the mile ascending grade. The maximum grade of road is 68 feet to the mile.

Length of line, 36.10 miles.

Bridges: Steel, 1; length, 360 feet.

Trestles: 1, 30 feet long.

Gauge of track: 4 feet 8½ inches.

## CAR MILEAGE.

This company pays mileage for the use of cars to the Southern Pacific Company.

STATE OF CALIFORNIA, }  
County of San Francisco, } ss.

We, the undersigned, R. D. Fry, President, and J. Dalzell Brown, Treasurer, of the Alameda & San Joaquin Railroad Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

R. D. FRY,

President.

J. DALZELL BROWN,

Treasurer.

Subscribed and sworn to before me, this 19th day of May, 1896.

O. A. EGGERS,

Notary Public in and for the City and County of San Francisco, State of California.

## ARCATA &amp; MAD RIVER RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Arcata & Mad River Railroad Company.
2. Date of organization: December 29, 1891.
3. Under laws of what Government, State, or Territory organized: State of California.

## ORGANIZATION.

Names of Directors: F. Korbel, A. Korbel, J. Korbel, Anna Korbel, Theresa Korbel, all of San Francisco.

Date of expiration of terms of Directors: January, 1897.

Number of stockholders at date of last election: 5.

Last meeting of stockholders for election of Directors: January 4th.

Post Office address of general office: San Francisco.

Post Office address of operating office: Arcata, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: V. Zaruba, Agent, Arcata, California.

## OFFICERS.

Title.	Name.	Location of Office.
President .....	F. Korbel .....	San Francisco.
Secretary .....	J. Korbel .....	San Francisco.
Treasurer .....	A. Korbel .....	San Francisco.
Attorney, or General Counsel .....	S. M. Buck .....	Eureka.
General Superintendent .....	V. Zaruba .....	Arcata.
Assistant General Superintendent .....	J. F. Korbel .....	Arcata.
Assistant General Passenger Agent .....	W. H. Ogilwy .....	Arcata.
Assistant General Ticket Agent .....	M. F. Wagner .....	Arcata.

## PROPERTY OPERATED.

Name.	Terminals.	Miles.
Arcata & Mad River Railroad .....	Arcata Wharf to Korbel .....	14
	Korbel to Mad River .....	4.5

## CAPITAL STOCK.

The total par value of authorized capital stock is \$300,000, divided into 15,000 shares, at \$20 per share. The total amount issued and outstanding is \$187,740. Dividends declared during year, \$7,026 10.

Manner of payment for capital stock: Number of shares issued for cash, 9,387; cash realized on amount issued, \$187,740; cash realized on amount issued during the year, \$7,026 10.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1896.	
Cash, June 30, 1896 .....	\$213 14	Loans and bills payable .....	\$6 48
Bills receivable .....	6,063 89	Wages and salaries .....	540 34
		Total current liabilities .....	\$546 82
		Balance—cash assets .....	5,730 21
Total .....	\$6,277 03	Total .....	\$6,277 03



## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Miles.
Capital stock .....	\$187,740 00	18.50

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Current Liabilities.
Arcata & Mad River Railroad .....	\$187,740 00	\$545 82

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Permanent Improvements During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.
Construction:			
Right of way (roadbed) .....		\$135,358 29	\$142,850 38
Other real estate .....		18,625 00	17,877 10
Grading, and bridge and culvert masonry .....	\$4,222 92		
Rails .....	1,494 85		
Ties .....	911 60		
Buildings, furniture, and fixtures .....		330 00	300 00
Shop machinery and tools .....		2,119 03	1,684 74
Telephone line .....		186 68	289 88
Other items .....		2,025 00	1,948 14
Total construction .....	\$6,629 37	\$158,644 00	\$164,950 24
Equipment:			
Sleeping, parlor, and dining cars .....		\$ 38,508 95	\$36,476 87
Floating equipment .....		3,050 00	2,900 00
Total equipment .....		\$41,558 95	\$39,376 87
Total cost construction, equipment, etc. ....	\$6,629 37	\$200,202 95	\$204,327 11

## INCOME ACCOUNT.

Gross earnings from operation .....	\$59,971 52	
Less operating expenses .....	60,505 60	
Deficit .....	\$534 08	
Miscellaneous income—less expenses .....	16,193 00	
Total income .....		\$76,164 52
Deductions from income:		
Taxes .....	\$2,003 45	
Permanent improvements .....	6,629 37	
Total deductions from income .....		69,138 42
Net income .....		\$7,026 10

## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Passenger revenue.....	\$12,502 75		
Less repayments (tickets redeemed) .....		\$11 85	
Total passenger revenue .....			\$12,490 90
Mail.....	1,602 04	\$240 00	1,362 04
Express .....	144 00		144 00
Total passenger earnings.....			\$13,996 94
Freight revenue .....	38,073 86	96 77	\$37,977 09
	14,620 74	6,623 25	7,997 49
Total deductions .....		\$6,720 02	
Total freight earnings.....			\$45,974 58
Total gross earnings from operation.....			\$59,971 52

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway, and renewals of rails and ties.....	\$17,915 16
Repairs and renewals of bridges and culverts.....	606 92
Repairs and renewals of fences, road crossings, signs, and cattle guards .....	363 83
Repairs and renewals of docks and wharves.....	2,104 45
Repairs and renewals of telephone.....	88 39
Total.....	\$21,078 75
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$631 98
Repairs and renewals of passenger, freight, and work cars.....	1,628 87
Repairs and renewals of marine equipment .....	1,463 49
Repairs and renewals of shop machinery and tools.....	258 46
Total.....	\$3,982 80
Conducting transportation:	
Engine and roundhouse men .....	\$4,110 65
Fuel for locomotives.....	2,164 50
Water supply for locomotives.....	48 00
Oil, tallow, and waste for locomotives.....	203 47
Train service.....	1,693 80
Station service.....	660 00
Station supplies.....	91 90
Loss and damage .....	61 44
Operating marine equipment .....	4,781 85
Advertising .....	204 75
Stationery and printing.....	60 42
Other expenses.....	1,100 77
Total.....	\$15,181 55
General expenses:	
Salaries of general officers .....	\$15,000 00
Salaries of clerks and attendants .....	4,800 00
Insurance .....	212 50
Law expenses.....	250 00
Total.....	\$20,262 50
Recapitulation of expenses:	
Maintenance of way and structures.....	\$21,078 75
Maintenance of equipment .....	3,982 80
Conducting transportation.....	15,181 55
General expenses .....	20,262 50
Grand total .....	\$60,505 60

## MISCELLANEOUS INCOME.

Item.	Gross Income.	Less Expenses.	Net Miscellaneous Income.
Waterworks .....	\$641 95	\$387 41	\$254 54
Interest .....	1,038 22	21 75	1,016 47
Commission .....	184 87	96 05	88 82
Wharf crew, labor, and yard .....	6,586 97	3,609 21	2,977 76
Row piling, and dockage .....	5,366 17	-----	5,366 17
Rent of buildings, land and wharf .....	6,489 24	-----	6,489 24
Totals .....	\$20,307 42	\$4,114 42	\$16,193 00

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.
\$135,358 29	Cost of road .....	\$142,850 38
41,558 95	Cost of equipment .....	39,376 87
2,025 00	Other permanent investments .....	6,629 37
18,955 00	Lands owned .....	1,948 14
210 07	Cash and current assets .....	18,177 10
4,725 84	Other assets .....	213 14
\$202,833 15	Totals .....	3,625 54
		\$212,820 54

Increase of assets for the year ending June 30, 1896, \$9,987 39.

## IMPORTANT CHANGES DURING THE YEAR.

On main line, changed the track 2,000 feet from the river, on account of washouts in two places.

On the branch road to Mad River, extended  $1\frac{1}{4}$  miles; changed the track in three places, about 1,200 feet, on account of washouts.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Yearly Compensation.	Average Daily Compensation.
General officers .....	5	\$15,000 00	\$41 10
General office clerks .....	3	2,700 00	7 34
Station agents .....	1	660 00	1 83
Other station men .....	1	2,100 00	5 75
Enginemen .....	3	2,370 00	7 83
Firemen .....	3	1,800 00	6 00
Conductors .....	1	960 00	2 66
Other trainmen .....	1	720 00	2 00
Carpenters .....	2	2,380 56	6 63
Section foremen .....	3	2,520 00	8 07
Other trackmen .....	11	7,722 00	24 75
Switchmen, flagmen, watchmen, and wharf foreman .....	1	960 00	3 08
Employés—account floating equipment (steamer Alta) .....	4	3,420 00	9 48
All other employés and laborers (wharf crew) .....	4	2,649 21	8 48
Total (including general officers) .....	43	\$45,961 77	\$135 00
Less general officers .....	5	15,000 00	41 10
Total (excluding general officers) .....	38	\$30,961 77	\$93 90
Distribution of above:			
General administration .....	10	\$20,460 00	56 02
Maintenance of way and structures .....	14	10,242 00	32 82
Maintenance of equipment .....	2	2,380 56	6 63
Conducting transportation .....	17	12,879 21	39 53
Total (including general officers) .....	43	\$45,961 77	\$135 00
Less general officers .....	5	15,000 00	41 10
Total (excluding general officers) .....	38	\$30,961 77	\$93 90

## CONTRACTS, AGREEMENTS, ETC.

Agreement to carry express from Eureka to Arcata and Korbelt.

To carry mail from Eureka to Arcata Wharf, six times a week, twice daily.

From Arcata Wharf to Korbelt, six times a week, twice daily.

Agreement to haul lumber from mills, unload it, pile it, and store it on the wharf, with mills Glendale, Warren Creek, and Riverside, and with the Humboldt Lumber Mill Co.

Shingle Mills: B. Vaissade and Humboldt Manufacturing Co.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue .....	24,752	
Total passenger revenue .....		\$12,490 90
Total passenger earnings .....		13,996 94
Freight traffic:		
Number of tons carried of freight earning revenue .....	6,475.45	
Total freight revenue .....		45,974 58
Passenger and freight earnings .....		59,971 52
Train mileage: Miles run by mixed trains .....	24,752	
Average number of loaded cars in train .....	14	
Average number of empty cars in train .....	14	
Average number of tons of freight in train .....	50	
Average number of tons of freight in each loaded car .....	4	

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Commodity.	Originating on this Road—Tons.	Received from Connecting Roads—Tons.	Total Freight Tonnage.	Per Cent.
Products of agriculture:				
Grain .....		690 $\frac{11}{20}$	690 $\frac{11}{20}$	10 $\frac{3}{4}$ —
Flour .....		528	528	8 +
Potatoes .....	61 $\frac{1}{4}$		61 $\frac{1}{4}$	1 —
Peas .....	198 $\frac{11}{20}$		198 $\frac{11}{20}$	3 +
Products of animals:				
Wool .....	56 $\frac{9}{20}$		56 $\frac{9}{20}$	$\frac{5}{8}$ +
Hides and leather .....	112 $\frac{7}{20}$		112 $\frac{7}{20}$	1 $\frac{2}{3}$ +
Butter .....	27 $\frac{3}{4}$		27 $\frac{3}{4}$	$\frac{1}{3}$ +
Products of forest:				
Bark .....	416 $\frac{1}{2}$ cords.			
Bolts .....	354 cords.			
Lumber .....	19,967,602 feet.			
Shingles .....	47,237,917.			
Shakes .....	3,016,800.			
Manufactures:				
Petroleum and other oils .....		107 $\frac{1}{4}$	107 $\frac{1}{4}$	1 $\frac{2}{3}$ —
Wagons, carriages, tools, etc. ....		146 $\frac{1}{2}$	146 $\frac{1}{2}$	2 $\frac{1}{4}$ +
Merchandise .....	1,204 $\frac{1}{2}$	3,342 $\frac{1}{3}$	4,546 $\frac{5}{6}$	70 $\frac{1}{3}$ +
Total tonnage .....	1,660 $\frac{9}{10}$	4,814 $\frac{11}{20}$	6,475 $\frac{9}{20}$	99 $\frac{2}{3}$ +



## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.	With Train Brake.	Name of Brake.
Locomotives:			
Passenger .....	1	1	Steam.
Freight .....	3	3	
Total locomotives in service .....	4	4	
Cars in passenger service:			
Second-class cars .....	3	3	Hand.
Combination cars .....	1	1	
Total .....	4	4	
Cars in freight service:			
Box cars .....	4	4	Hand.
Flat cars .....	160	16	
Total .....	164	20	
Cars in company's service:			
Other road cars .....	22	22	Hand.
Total .....	22	22	
Total cars owned and in service .....	190	46	

## MILEAGE.

## A. Mileage of Road Operated—All Tracks.

Line in Use.	Main Line.	Branches and Spurs.	Line Operated under Trackage Rights.	Iron Rails.	Steel Rails.
Miles of single track .....	14	4½	18½	1¾	16¾
Miles of yard track and sidings .....	3¾		3¾	3¾	
Total mileage operated .....	17¾	4½	22¼	5½	16¾

## B. Mileage of Line Operated, by States and Territories—Single Track.

State.	Main Line.	Branches and Spurs.	Iron Rails.	Steel Rails.
California .....	14	7	5½	16¾

## NEW TIES LAID DURING YEAR.

There were 5,079 redwood ties laid during the year; average price at distributing point, 21½ cents.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

	Soft Wood —Cords.	Fuel Consumed —Tons.	Miles Run.	Average Lbs. Consumed per Mile.
All locomotives .....	666	333	24,752	26¼
Steamer .....	614	307	7,506	81½
Totals .....	1,280	640	32,258	108¾

Average cost at distributing point: Pine, \$3 25 per cord; redwood, \$1 75 per cord.

## ACCIDENTS.

Collision, March, 1896, between passenger train and E. & E. R. R. construction train. Accident happened on account of construction train not stopping for the passenger train.

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Number of Curves.	Straight Line—Miles.
Arcata to Arcata Wharf.....	2	1	1¾
Arcata to Korbelt.....	12	36	3
Korbelt to Mad River.....	4½	18	2½
Eureka to Arcata Wharf.....	4½	-----	-----
Totals.....	23	55	7½

Between Eureka and Arcata Wharf is a ferry-boat, carrying freight, express, and mail.

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges:				
Wooden.....	1	140 feet.		
Combination.....	1	750 feet.		
Totals.....	2	890 feet.		
Trestles.....	21	17,230 feet.	10,560 feet.	24 feet.

Gauge of track: 3 feet 9½ inches.

Telephone: Line 5 miles long.

STATE OF CALIFORNIA, }  
County of San Francisco, } ss.

I, the undersigned, Secretary of the Arcata & Mad River Railroad Company, on oath, do say that the foregoing return has been prepared, under my direction, from the original books, papers, and records of said company; that I have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of my knowledge, information, and belief; and I further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

JOSEPH KORBEL,  
Secretary.

Subscribed and sworn to before me, this 29th day of August, 1896.

A. J. HENRY,  
Notary Public in and for the City and County of San Francisco, State of California.

## COLUSA &amp; LAKE RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Colusa & Lake Railroad Company.
2. Date of organization: November 27, 1886.
3. Under laws of what Government, State, or Territory organized: State of California.
4. Names of constituent companies: Colusa Railroad Company, incorporated July 23, 1885; Colusa & Lake Railroad Company, incorporated June 8, 1886.
5. Date of consolidation: November 27, 1886.

## ORGANIZATION.

Names of Directors: W. P. Harrington, E. W. Jones, E. A. Harrington, Geo. Hagar, J. W. Goad, P. Peterson, John Sites, John Boggs, J. H. Roberts, all of Colusa.  
 Date of expiration of terms of Directors: First Monday in December, 1896.  
 Number of stockholders at date of last election: 88.  
 Last meeting of stockholders for election of Directors: December 2, 1895.  
 Post Office address of general and operating offices: Colusa.  
 Name and address of officer to whom correspondence regarding this report should be addressed: T. Harrington, Secretary, Colusa.

## OFFICERS.

Title.	Name.
President .....	W. P. Harrington.
Vice-President .....	E. W. Jones.
Secretary .....	T. Harrington.
Treasurer .....	Colusa County Bank.
General Superintendent .....	E. A. Harrington.

## PROPERTY OPERATED.

The Colusa & Lake Railroad Company operates a main line from Colusa to Sites, a distance of 22 miles.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$400,000, divided into 4,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$100,500. No dividends were declared during the year.

Manner of payment for capital stock: Issued for cash, 1,005 shares; amount realized, \$100,500.

## FUNDED DEBT.

April 1, 1887, bonds were authorized to be issued to the amount of \$70,000, to be secured by a deed of trust. Amount outstanding, \$66,000. Cash realized on amount issued, \$70,000. The bonds mature in 1907, and bear 6 per cent interest, payable semi-annually, on April 1st and October 1st. The amount of interest accruing during the year was \$3,960, which was paid.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.
Mortgage bonds .....	\$70,000 00	\$66,000 00

Interest accrued during year, \$3,960; interest paid during year, \$3,960.

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Apportionm't to Railroads.	Miles.	Amount per Mile of Line.
Capital stock .....	\$100,500 00	\$100,500 00	22	\$4,568 36
Bonds .....	66,000 00	66,000 00		3,000 00
Totals .....	\$166,500 00	\$166,500 00	22	\$7,568 36

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operation of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.	Miles.
Colusa & Lake Railroad .....	\$100,500 00	\$66,000 00	\$4,454 15	\$176,954 15	22

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.
Construction .....		\$161,839 64	
Rails .....	\$383 44		
Total construction .....	\$383 44	\$161,839 64	\$162,223 08
Equipment .....		31,846 27	31,846 27
Total cost construction, equipment, etc. ....	\$383 44	\$193,685 91	\$190,069 35

## INCOME ACCOUNT.

Gross earnings from operation .....	\$13,608 37	
Less operating expenses .....	12,604 66	
Income from operation .....		\$1,003 71
Miscellaneous income—less expenses .....		418 00
Total income .....		\$1,421 71
Deductions from income:		
Interest on funded debt accrued .....	\$3,960 00	
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	91 02	
Taxes .....	751 52	
Total deductions from income .....		4,802 54
Deficit .....		\$3,380 83
Deficit from operations of year ending June 30, 1896 .....		\$3,380 83
Surplus on June 30, 1895 .....		26,496 03
Surplus on June 30, 1896 .....		\$23,115 20



## EARNINGS FROM OPERATION.

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Passenger revenue .....	\$8,750 55		
Less tickets redeemed .....		\$2,807 75	
Total passenger revenue .....			\$5,942 80
Mail .....			939 64
Express .....			480 00
Total passenger earnings .....			\$7,362 44
Freight revenue .....	6,560 21		
Less overcharge to shippers .....		\$314 28	
Total freight earnings .....			6,254 93
Total gross earnings from operation .....			\$13,608 37

## MISCELLANEOUS INCOME.

Rents from buildings owned .....	\$418 00
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## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$2,990 00
Renewals of rails .....	383 44
Total .....	\$3,373 44
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$486 77
Repairs and renewals of passenger cars .....	125 00
Repairs and renewals of freight cars .....	300 00
Repairs and renewals of shop machinery and tools .....	100 00
Total .....	\$1,011 77
Conducting transportation:	
Engine and roundhouse men .....	\$2,340 00
Fuel for locomotives .....	1,200 00
Water supply for locomotives .....	240 00
Oil, tallow, and waste for locomotives .....	350 00
Other supplies for locomotives .....	200 00
Train service .....	1,440 00
Station service .....	480 00
Rents of buildings and other property .....	50 00
Total .....	\$6,300 00
General expenses:	
Salaries of general officers .....	\$1,740 00
Law expenses .....	129 45
Other expenses .....	50 00
Total .....	\$1,919 45
Recapitulation of expenses:	
Maintenance of way and structures .....	\$3,373 44
Maintenance of equipment .....	1,011 77
Conducting transportation .....	6,300 00
General expenses .....	1,919 45
Grand total .....	\$12,604 66

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.
\$161,839 64	Cost of road.....	\$162,223 08
31,846 27	Cost of equipment.....	31,846 27
\$193,685 91	Totals.....	\$194,069 35
June 30, 1895.	Liabilities.	June 30, 1896.
\$100,500 00	Capital stock.....	\$100,500 00
66,000 00	Funded debt.....	66,000 00
689 88	Current liabilities.....	4,454 15
26,496 03	Profit and loss.....	23,115 20
\$193,685 91	Totals.....	\$194,069 35

## CONTRACTS, AGREEMENTS, ETC.

U. S. mails, \$939 64 per year.

Wells, Fargo &amp; Co.'s express, \$480 per year.

## SECURITY FOR FUNDED DEBT.

Class of Bond or Obligation.	What Road Mortgaged.	Miles.	Amount per Mile of Line.	What Equipment Mortgaged.
Bonds, secured by deed of trust ..	Colusa to Sites..	22	\$3,000 00	All.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Days Worked.	Yearly Compensation.	Average Daily Compensation.
General officers .....	4	720	\$1,740 00	\$2 41
Station agents .....	2	720	420 00	58
Other station men .....	1	360	60 00	16
Enginemen .....	2	720	1,620 00	2 25
Firemen .....	1	360	720 00	2 00
Conductors .....	1	360	780 00	2 18
Other trainmen .....	1	360	660 00	1 83
All other employés and laborers.....	10	2,600	2,990 00	1 15
Total (including general officers) ...	22	6,200	\$8,990 00	\$1 45
Less general officers.....	4	720	1,740 00	2 41
Total (excluding general officers)....	18	5,480	\$7,250 00	\$1 32
Distribution of above:				
General administration .....	4	720	\$1,740 00	\$2 41
Maintenance of way and structures..	10	2,600	2,990 00	1 15
Conducting transportation.....	8	2,880	4,260 00	1 48
Total (including general officers) ..	22	6,200	\$8,990 00	\$1 45
Less general officers.....	4	720	740 00	2 41
Total (excluding general officers)....	18	5,480	\$7,250 00	\$1 37

Two receive no compensation.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Item.	Tonnage, Passengers, Etc.	Revenue and Rates.
Passenger traffic:		
Number of passengers carried earning revenue .....	7,617	
Total passenger revenue .....		\$5,942 80
Average amount received from each passenger .....		73.02
Average receipts per passenger per mile .....		7.09
Passenger earnings per mile of road .....		334 65.63
Freight traffic:		
Number of tons carried of freight earning revenue .....	6,663	
Freight earnings .....		6,245 93
Freight earnings per mile of road .....		283 90
Passenger and freight:		
Passenger and freight revenue .....		12,188 73
Passenger and freight earnings .....		13,608 37
Passenger and freight earnings per mile of road .....		618 56.02
Gross earnings from operation .....		13,608 37
Gross earnings from operation per mile of road .....		618 56.02
Operating expenses .....		12,604 66
Operating expenses per mile of road .....		572 94
Income from operation .....		1,003 71
Income from operation per mile of road .....		45 62
Train mileage:		
Miles run by freight trains .....	1,800	
Miles run by mixed trains .....	19,300	
Total mileage trains earning revenue .....	21,100	

## FREIGHT TRAFFIC MOVEMENT.

Grain, 5,000 tons. Live stock, fruit, hay-wagons, merchandise-wagons, and agricultural implements.

## DESCRIPTION OF EQUIPMENT.

Item.	Added During Year.	Number at End of Year.
Locomotives:		
Passenger .....	2	2
Freight .....	1	1
Total locomotives in service .....	3	3
Cars in passenger service:		
First-class cars .....	2	2
Combination cars .....	1	1
Baggage, express, and postal cars .....	2	2
Totals .....	5	5
Cars in freight service:		
Box cars .....	4	4
Flat cars .....	20	20
Totals .....	24	24
Total cars owned and in service .....	29	29

One passenger locomotive is equipped with New York air-brake.

## RENEWALS OF RAILS AND TIES.

Nine tons of new rails were laid during the year. Weight per yard, 35 lbs.; average price per ton at distributing point, \$40.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

In running 21,100 miles, locomotives consumed 300 cords of hard wood, or 200 tons of fuel. Average pounds consumed per mile, 1,89; average cost at distributing point, \$4.

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	No.	Aggregate Length.	Minimum Length.	Maximum Length.
Bridges: Wooden.....	2	160 feet.	80 feet.	80 feet.
Trestles .....	15	2,725 feet.	30 feet.	1,530 feet.

STATE OF CALIFORNIA, }  
County of Colusa. } ss.

We, the undersigned, W. P. Harrington, President, and T. Harrington, Secretary, of the Colusa & Lake Railroad Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

W. P. HARRINGTON,  
President.  
T. HARRINGTON,  
Treasurer.

Subscribed and sworn to before me, this 8th day of August, 1896.

J. W. GOAD,  
Notary Public in and for the County of Colusa, State of California.

## CALIFORNIA RAILWAY.

## HISTORY.

1. Name of common carrier making this report: California Railway.
2. Date of organization: August 18, 1890.
3. Under laws of what Government, State, or Territory organized: California.
6. Name of original corporation, California Railway Company; date of organization, February 5, 1890.

## ORGANIZATION.

Names of Directors.	Post Office Address.
Geo. H. Mastick.....	Pacific Avenue and Wood Street, Alameda.
A. H. Clough.....	1253 Twenty-third Avenue, Oakland.
W. M. Rank.....	1003½ Broadway, Oakland.
E. S. Denison.....	953 Eighth Street, Oakland.
W. H. Chickering.....	208 Sansome Street, San Francisco.

Date of expiration of terms of Directors: February 1, 1897.

Number of stockholders at date of last election: 12.

Last meeting of stockholders for election of Directors: February 25, 1896.

Post Office address of general and operating offices: No. 1003½ Broadway, Oakland, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: W. M. Rank, Secretary, 1003½ Broadway, Oakland.



For the better understanding of the workings of the California Railway, it should be understood that this railway is really a subsidiary company to the California Improvement Company, a corporation formed for the handling of rock at their quarries, situated at Laundry Farm, Alameda County, California. This may explain the inability to furnish some of the statistics demanded.

During the past year the system was changed from steam to electricity, new cars purchased, and 2 miles of new track laid. The road was placed in operation as an electric road on June 6, 1896.

## OFFICERS.

Title.	Name.
Chairman of the Board.....	W. M. Rank.
President.....	E. S. Denison.
Vice-President.....	A. H. Clough.
Secretary.....	W. M. Rank.
Treasurer.....	W. M. Rank.
General Solicitor and Attorney.....	W. H. Chickering.

Office of the company: 1003½ Broadway, Oakland, California.

The Secretary and Treasurer attends to the duties of all railroad officers not mentioned above.

## PROPERTY OPERATED.

California Railway is operated from Fruitvale to Leona, California, a distance of 6 miles.

## CAPITAL STOCK.

The capital stock of this company consists of 5,000 shares of a par value of \$100 each. On February 25, 1896, an assessment of \$5 per share was levied on the stock.

Manner of payment for capital stock: Issued for cash, 5,000 shares; total cash realized, \$160,595 99.

## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.	Current Liabilities Accrued to and Including June 30, 1896.
Bills receivable..... \$8,075 00	Receiver's certificates..... \$23,471 88
Due from solvent companies and individuals..... 59,676 67	Loans and bills payable..... 11,364 29
Other cash assets..... 2,001 30	
Total cash and current assets..... \$69,752 97	
Balance—current liabilities..... 34,836 17	
Total..... \$34,916 80	Total..... \$34,836 17

Materials and supplies on hand, \$425.

## RECAPITULATION.

*For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Apportionment to Other Properties.	Miles.	Amount per Mile of Line.
Current liabilities.....	\$34,836 17	\$34,836 17	6	\$5,806 03

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Construction or Equipment During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost per Mile.
Construction:				
Right of way .....		\$13,020 64	\$13,020 64	\$14,298 58
Other real estate .....		2,500 00	2,500 00	
Bridges and trestles .....		8,377 32	8,377 32	
Rails .....	\$2,400 00	4,772 98	7,172 98	
Ties .....	9 60	1,005 39	1,014 99	
Buildings, furniture, and fix- tures .....	178 60	3,142 55	3,321 15	
Shop machinery and tools .....	73 48	597 84	671 32	
Engineering expenses .....			1,114 75	
Telegraph line .....		437 50	437 50	
Sidings and yard extensions .....		178 01	178 01	
Terminal facilities and ele- vators .....		491 18	491 18	
Road built by contract .....	9,353 68		9,353 68	
Purchase of constructed road .....		19,275 10	19,275 10	
Other items .....	11,805 00	8,177 60	18,862 95	
Total construction .....	\$23,820 36	\$61,971 11	\$85,791 47	\$14,298 58
Equipment:				
Locomotives .....		\$15,796 91	\$15,796 91	\$7,357 85
Passenger cars .....	\$11,106 56	3,950 00	15,056 56	
Freight cars .....		8,685 83	8,685 83	
Other cars of all classes .....		4,607 81	4,607 81	
Total equipment .....	\$11,106 56	\$33,040 55	\$44,147 11	\$7,357 85
Total cost construction, equipment, etc. ....	\$34,926 92	\$95,011 66	\$129,938 58	\$21,656 43

Under the heading "Other Items" there was expended, during the year, \$11,805. This was for poles, trolley wire, etc., used in changing system from steam to electricity.

## INCOME ACCOUNT.

Gross earnings from operation .....	\$15,322 76	
Less operating expenses .....	19,464 31	
Deficit .....		\$4,141 55
Deductions from income: taxes .....		367 81
Deficit from operations of year ending June 30, 1896 .....		\$4,509 36
Surplus on June 30, 1895 .....		9,193 75
Surplus on June 30, 1896 .....		\$4,684 39

## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Passenger revenue .....	\$4,514 24
Mail .....	75 00
Total passenger earnings .....	\$4,589 24
Freight earnings .....	9,996 31
Total passenger and freight earnings .....	\$14,585 55
Other earnings .....	737 21
Total gross earnings from operation .....	\$15,322 76

## MISCELLANEOUS INCOME.

Item.	Net Miscellaneous Income.
Rental of portion of station building .....	\$50 00
Sale of rails and old scrap iron .....	657 86
Gravel sales .....	29 35
Total .....	\$737 21

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$2,150 72
Repairs and renewals of bridges and culverts .....	324 77
Repairs and renewals of buildings and fixtures .....	67 26
Total .....	\$2,542 75
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$1,911 76
Repairs and renewals of passenger cars .....	597 08
Repairs and renewals of freight cars .....	310 71
Repairs and renewals of shop machinery and tools .....	2 75
Total .....	\$2,822 30
Conducting transportation:	
Engine and roundhouse men .....	\$2,289 15
Fuel for locomotives .....	3,433 03
Other supplies for locomotives .....	125 00
Train service .....	1,647 25
Train supplies and expenses .....	12 40
Telegraph expenses .....	112 00
Station service .....	1,520 35
Hire of equipment .....	294 00
Advertising .....	1,647 30
Total .....	\$11,080 48
General expenses:	
Salaries of clerks and attendants .....	\$2,285 61
Law expenses .....	340 20
Stationery and printing (general offices) .....	89 40
Other expenses .....	303 57
Total .....	\$3,018 78
Recapitulation of expenses:	
Maintenance of way and structures .....	\$2,542 75
Maintenance of equipment .....	2,822 30
Conducting transportation .....	11,080 48
General expenses .....	3,018 78
Grand total .....	\$19,464 31

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.
\$61,971 11	Cost of road .....	\$85,791 47	\$34,926 92
33,040 55	Cost of equipment .....	44,147 11	
53,724 46	Cash and current assets .....	69,752 97	16,028 51
	Materials and supplies .....	425 00	
\$148,736 12	Totals .....	\$200,116 55	
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Increase.
\$136,845 99	Capital stock .....	\$160,595 99	\$23,750 00
2,696 38	Current liabilities .....	34,836 17	32,139 79
9,193 75	Profit and loss .....	4,684 39	
\$148,736 12	Totals .....	\$200,116 55	

## IMPORTANT CHANGES DURING THE YEAR.

During the year 1896 the road was extended through the Laundry Farm property. Total length of extension, 1 mile 4,680 feet.

## CONTRACTS, AGREEMENTS, ETC.

The only contract to which this company is a party is that with the California Improvement Company, a company duly authorized under the laws of this State, for the hauling of crushed rock from their quarries at Laundry Farm, Alameda County, California, to Fruitvale, Alameda County, California, a distance of 4 miles, at a fixed rate of \$6 per car of 20 tons each.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Days Worked.	Yearly Compensation.	Average Daily Compensation.
General officers .....	2	365	\$1,113 28	\$3 05
Other officers .....	1	365	932 33	2 55
General office clerks .....	1	365	240 00	66
Station agents .....	2	365	1,520 35	4 16
Enginemen .....	1	390	1,559 15	4 00
Firemen .....	1	365	730 00	2 00
Conductors .....	1	365	917 25	2 51
Other trainmen .....	1	365	730 00	2 00
Total (including general officers) .....			\$7,742 36	\$20 93
Less general officers .....			1,113 28	5 60
Total (excluding general officers) .....			\$6,629 08	\$15 33
Distribution of above:				
General administration .....			\$2,285 61	
Maintenance of way and structures, and equipment, and conducting transportation .....			5,456 75	
Total (including general officers) .....			\$7,742 36	
Less general officers .....			1,113 28	
Total (excluding general officers) .....			\$6,629 08	



## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives owned and in service.....	2
Cars in passenger service.....	4
Cars in freight service—flat cars.....	16
Total cars owned.....	20

All rolling stock is equipped with the Westinghouse train brake.

## MILEAGE OF ROAD OPERATED.

Main line (single track), 6 miles; all steel rails. All trackage operated by this company is in California.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Tons of bituminous coal consumed, 490.

## BRIDGES, TRESTLES, TUNNELS, ETC.

Item.	Number.	Aggregate Length.	Minimum Length.	Maximum Length.
Trestles.....	3	850 feet.	50 feet.	400 feet.

Gauge of track: 4 feet 8½ inches; length, 6 miles.

STATE OF CALIFORNIA, }  
County of Alameda. } ss.

I, the undersigned, W. M. Rank, Secretary and Treasurer of the California Railway, on my oath, do say that the foregoing return has been prepared, under my direction, from the original books, papers, and records of said company; that I have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of my knowledge, information, and belief; and I further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

W. M. RANK,  
Treasurer.

Subscribed and sworn to before me, this 3d day of October, 1896.

E. W. WOODWARD,  
Notary Public in and for the County of Alameda, State of California.

## PAJARO VALLEY RAILROAD COMPANY.

## HISTORY.

1. Name of common carrier making this report: Pajaro Valley Railroad Company.
2. Date of organization: December 31, 1889.
3. Under laws of what Government, State, or Territory organized: California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
Claus Spreckels .....	San Francisco.
John D. Spreckels .....	San Francisco.
John L. Koster .....	San Francisco.
W. C. Waters .....	Watsonville.
Samuel Sussman .....	San Francisco.

Date of expiration of terms of Directors: January 21, 1897.

Number of stockholders at date of last election: 14.

Last meeting of stockholders for election of Directors: January 21, 1896.

Post Office address of general office: 327 Market Street, San Francisco.

Post Office address of operating office: Watsonville, California.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President .....	Claus Spreckels .....	327 Market St., San Francisco.
Vice-President .....	John D. Spreckels .....	327 Market St., San Francisco.
Secretary .....	E. H. Sheldon .....	327 Market St., San Francisco.
Treasurer .....	J. D. Spreckels & Bros. Co. ....	327 Market St., San Francisco.
General Superintendent .....	W. C. Waters .....	Watsonville.

## CAPITAL STOCK.

The total par value of authorized capital stock is \$1,000,000, divided into 10,000 shares of a par value of \$100 each. Total amount issued and outstanding, \$300,000. In 1894 a 5 per cent dividend was declared, amounting to \$15,000, and in 1896 a like dividend was declared, amounting to the same sum.

## CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash ..... \$9,866 08

## RECAPITULATION.

*For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Miles.	Amount per Mile of Line.
Capital stock .....	\$300,000	23.7	\$12,658 23

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Item.	Permanent Improvements During Year.	Total Cost to June 30, 1895.	Total Cost to June 30, 1896.	Cost per Mile.
Construction:				
Right of way .....		\$86,264 99	\$86,264 99	\$3,639 87
Other real estate .....	\$796 50	19,743 27	20,539 77	866 66
Fences .....		9,941 86	9,941 86	419 49
Grading, and bridge and culvert masonry .....		13,839 41	13,839 41	583 94
Rails .....	7,031 25	94,063 59	101,094 84	4,265 60
Ties .....		20,083 24	20,083 24	847 39
Buildings, furniture, and fixtures .....	3,200 98	2,445 40	5,646 38	238 24
Telephone line .....	101 46	1,876 97	1,978 43	83 48
Sidings and yard extensions, portable track, terminal facilities, elevators, and fittings .....		5,669 30	5,669 30	239 20
Survey .....		1,732 30	1,732 30	73 09
Total construction .....	\$11,130 19	\$255,660 33	\$266,790 52	\$11,256 97
Equipment:				
Locomotives .....		\$19,666 11	\$19,666 11	\$829 79
Freight cars .....		44,747 71	44,747 71	1,888 09
Total equipment .....		\$64,413 82	\$64,413 82	\$2,717 88
Total cost construction, equipment, etc. ....	\$11,130 19	\$320,074 15	\$331,204 34	\$13,974 85

## INCOME ACCOUNT.

Gross earnings from operation .....		\$70,045 13	
Less operating expenses .....		51,610 34	
Income from operation .....			\$18,434 79
Miscellaneous income—less expenses .....			375 56
Total income .....			\$18,810 35
Deductions from income:			
Taxes .....		\$2,661 58	
Permanent improvements .....		11,130 19	
Total deductions from income .....			13,791 77
Net income .....			\$5,018 58
Dividends, 5 per cent, common stock	1894	\$15,000	
	1895	15,000	
Total .....			30,000 00
Deficit from operations of year ending June 30, 1896 .....			\$24,981 42

## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Passenger earnings .....	\$1,028 95
Freight earnings .....	69,016 18
Total passenger and freight earnings .....	\$70,045 13
Other earnings .....	375 56
Total gross earnings from operation .....	\$70,420 69

## OPERATING EXPENSES.

Item.	Amount.
Maintenance of way and structures:	
Renewals of rails.....	\$18,436 00
Maintenance of equipment:	
Repairs and renewals of locomotives.....	\$1,769 23
Repairs and renewals of freight cars.....	1,026 11
Other expenses.....	341 26
Total.....	\$3,136 60
Conducting transportation:	
Fuel for locomotives.....	\$4,280 04
Loss and damage.....	327 32
Other expenses.....	25,401 88
Total.....	\$30,009 24
General expenses:	
Insurance.....	\$28 50
Grand total.....	\$51,610 34
Percentage of operating expenses to earnings.....	73.00

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.	June 30, 1896— Increase.	June 30, 1896— Decrease.
\$255,660 33	Cost of road.....	\$266,790 52	\$11,130 19	
64,413 82	Cost of equipment.....	64,413 82		
34,847 50	Cash and current assets.....	9,866 08		\$24,981 42
54,921 65	Profit and loss.....	41,070 42		13,851 23
\$409,843 30	Totals.....	\$382,140 84	\$11,130 19	\$38,832 65
June 30, 1895.	Liabilities.	June 30, 1896.	June 30, 1896— Decrease.	
\$300,000 00	Capital stock.....	\$300,000 00		
54,921 65	Profit and loss.....	41,070 42		\$13,851 23
\$354,921 65	Totals.....	\$341,070 42		\$13,851 23

## CONTRACTS, AGREEMENTS, ETC.

Contract with Pacific Coast Steamship Company, whereby that company receives 75 per cent, and the Pajaro Valley Railroad Company 25 per cent of the freight receipts for transportation of sugar from Watsonville to San Francisco.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

No record kept.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Freight originating on this road : Sugar, 10,915 tons.



## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Freight locomotives .....	3
Cars in passenger service .....	1
Cars in freight service:	
Box cars .....	16
Flat cars .....	19
Other cars .....	126
Total cars owned .....	162

The locomotives are equipped with train brakes.

## MILEAGE OF ROAD OPERATED.

Single track (main line), 23.7 miles; miles of yard track and sidings, 2.

## NEW RAILS LAID DURING YEAR.

Kind.	Tons.	Weight per Yard.	Average Price per Ton at Distributing Point.
Steel .....	626	45 lbs.	\$32 60

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

No record kept.

## CHARACTERISTICS OF ROAD.

Working division: Watsonville to Salinas, a distance of 23.7 miles.

Bridges: Combination, 1; length, 123 feet.

Trestles: 1 mile.

Gauge of track, 3 feet.

Telephone: 24 miles of line and wire owned by this company.

STATE OF CALIFORNIA, )  
County of San Francisco. ) ss.

We, the undersigned, Claus Spreckels, President, and E. H. Sheldon, Secretary, of the Pajaro Valley Railroad Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

CLAUS SPRECKELS,  
President.  
E. H. SHELDON,  
Secretary.

Subscribed and sworn to before me, this 11th day of August, 1896.

HENRY P. TRICOU,  
Notary Public in and for the City and County of San Francisco, State of California.

## CHINO VALLEY RAILROAD.

## HISTORY.

1. Name of common carrier making this report: Chino Valley Railroad.
2. Date of organization: Built in 1888.
3. Under laws of what Government, State, or Territory organized: No railroad company organized.

## ORGANIZATION.

Names of Directors.	Post Office Address.
C. H. Phillips .....	San José.
C. H. Phillips, Jr. ....	Chino, Cal.
Walter L. Vail .....	Los Angeles.
C. W. Gates .....	Los Angeles.
A. E. Pomeroy .....	Los Angeles.

Stockholders and Directors of the Chino Ranch Company owner of the railroad.

Number of stockholders at date of last election: 5.

Post Office address of general office: Chino, California.

Name and address of officer to whom correspondence regarding this report should be addressed: C. H. Phillips, Jr., Vice-President, Chino, California.

The Chino Valley Railroad was built by Richard Gird, and was sold by him to C. H. Phillips in November, 1894. The Chino Ranch Company was organized March 1, 1895, and this road was transferred to it on or about that date by Mr. Phillips.

It is a 42-inch gauge, with about nine miles of track. It runs one small engine, and one passenger coach between Chino and Ontario, a distance of about 6 miles, twice a day for passenger service. In summer and autumn it is also used in hauling away the beet pulp from the sugar factory to the silos and the dairy. It is a private road.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President .....	C. H. Phillips .....	Chino.
Vice-President .....	C. H. Phillips, Jr. ....	Chino.
Secretary and Treasurer .....	C. W. Gates .....	
Chief Engineer and General Superintendent .....	O. Winningstad .....	Chino.

As the railroad is the private property of the Chino Ranch Company, the officers of the ranch company are, by virtue of such positions, officers of the railroad.

## PROPERTY OPERATED.

Chino Valley Railroad: Chino to Ontario, 6 miles; Chino to Dairy, about 4 miles including switches; total, 10 miles.

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

During the past year there have been no accounts kept such as are kept for large railroads. Originally the road cost about \$60,000, and each year before the sugar campaign opens is put in repair to stand the wear and tear of hauling about 30,000 to 40,000 tons of beet pulp. Such repairs go into the general expense account of the season.

The equipment consists of 2 small motor engines, 3 passenger cars (only 1 in use), and 7 flat cars, for hauling pulp.

## INCOME ACCOUNT.

This road is not run on the basis of a general railroad: *i. e.*, for a profit. It is simply an accessory to the ranch and is operated only for the general benefit of the ranch and town, the larger portion of both of which are the property of the Chino Ranch Company. The passenger department costs about \$7 per day and returns on an average about \$4 per day. The freight engine and cars only run during the operation of the sugar factory, less than five months in the year. The cost of this department is included in the general pulp account, as we receive nothing for such hauling, being under contract to remove the pulp.

## EARNINGS FROM OPERATION.

Passenger earnings (estimated): \$1,500.

## OPERATING EXPENSES.

Maintenance of way and structures, and equipment, about \$800; conducting passenger transportation, \$2,500; total, \$3,300. General expenses are charged to general expense of ranch; expenses of pulp train are charged to pulp account. Percentage of operating expenses to earnings (passenger service only), as 7 to 4, or 175 per cent greater.

These do not include the running expenses of the pulp train, which are about \$30 per day for four months in the year, more or less.

## CONTRACTS, AGREEMENTS, ETC.

None in name of the railroad, which is not organized.

## EMPLOYÉS AND SALARIES.

General officers, 5—no compensation; general office clerks, Chino Ranch Company's clerks; enginemmen, 3 during sugar campaign and 1 balance of year—compensation, \$2 50 per day; 1 conductor at \$2 50 per day; other trainmen, 2 brakemen on pulp train, at \$2 per day each; machinists, carpenters, other shopmen, section foremen, other trackmen, switchmen, flagmen, and trackmen—none, except in making the ground repairs of each year, when 6 men are employed about 60 days, at \$2 per day each.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

No account kept.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Sugar beet pulp, 30,000 to 40,000 tons.

## DESCRIPTION OF EQUIPMENT.

Equipment consists of 2 locomotives, 3 passenger cars, and 7 flat cars. All cars are equipped with hand brakes.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Both passenger and freight locomotives use crude petroleum, each consuming about 220 gals. for consecutive run of 24 hours. This fuel costs an average of \$1 per bbl.

## MILEAGE.

In San Bernardino County, California: 10 miles of line (single track), operated under trackage rights, and owned.

## CHARACTERISTICS OF ROAD.

Working Divisions or Branches.	Miles.	Aggregate Length of Curved Line.	Length of Straight Line—Miles.
Chino to Ontario* -----	6	1,500 feet.	5¾
Chino to Dairy† -----	4	-----	4

\* Grade about 50 feet to a mile.    † Grade about 40 feet to a mile.

*To the Board of Railroad Commissioners:*

This being a private road, and operated only for the benefit of the ranch and as a part of the expense thereof, and further, as we have kept no set of railroad books, as is kept by regularly organized roads, showing accurate and absolute information regarding the returns and expenses, and further, as most of our answers have necessarily had to be estimates and not certainties, we could not properly take the oath required.

We have given you the best information we were able to, and trust that it will be to your satisfaction.

Very truly yours,

CHINO RANCH COMPANY.

By E. J. GATES,

For the Secretary.

## THE PACIFIC LUMBER COMPANY.

## HISTORY.

1. Name of common carrier making this report: The Pacific Lumber Company (not a railroad corporation).
2. Date of organization: February 24, 1869.
3. Under laws of what Government, State, or Territory organized: State of California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
W. S. Gage .....	822 Bush Street, San Francisco.
Chas. Nelson .....	6 California Street, San Francisco.
Robert Morrow .....	San Francisco.
Chas. E. Paxton .....	San Francisco.
Allen A. Curtis .....	San Rafael, Cal.

Date of expiration of terms of Directors: April 15, 1897.

Number of stockholders at date of last election: 9.

Last meeting of stockholders for election of Directors: April 13, 1896.

Post Office address of general office: 6 California Street, San Francisco.

Post Office address of operating office: Scotia, Humboldt County, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: Allen A. Curtis, President, 6 California Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President .....	Allen A. Curtis .....	6 California St., San Francisco.
Vice-President .....	W. S. Gage .....	6 California St., San Francisco.
Secretary .....	Geo. P. Parker .....	6 California St., San Francisco.
Treasurer .....	Anglo-Californian Bank .....	San Francisco.
General Solicitor and Attorney .....	S. M. Buck .....	Eureka.
General Superintendent .....	John A. Sinclair .....	Scotia, California.
General Freight Agent .....	Geo. E. Howes .....	Scotia, California.
General Ticket Agent .....	O. F. Redfield .....	Scotia, California.

## PROPERTY OPERATED.

This company operates a line 7 miles long, from Scotia to Alton.

## CAPITAL STOCK.

This company has no strictly railroad capital stock.

## COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.

Total cost of road (no detailed account) to June 30, 1896, \$183,000; total cost of equipment to June 30, 1896, \$72,000; total, \$255,000.

## INCOME ACCOUNT.

Gross earnings from operation .....	\$4,934 56
Less operating expenses .....	7,989 81
Deficit .....	\$3,055 25

Railroad taxes are not separated from other taxes.



## EARNINGS FROM OPERATION.

Item.	Actual Earnings.
Passenger revenue.....	\$2,624 20
Mail .....	289 00
Total passenger earnings .....	\$2,913 20
Freight earnings.....	2,021 36
Total gross earnings from operation.....	\$4,934 56

## OPERATING EXPENSES.

Maintenance of way and structures (items not segregated), \$6,598 34; conducting transportation—charged to the cost of manufacturing lumber; general expenses—salaries of general officers, \$450; salaries of clerks and attendants, \$720; other expenses, \$221 47; total, \$7,989 81.

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1895.	Assets.	June 30, 1896.
\$183,000 00	Cost of road.....	\$183,000 00
72,000 00	Cost of equipment .....	72,000 00
\$255,000 00	Totals .....	\$255,000 00

No liabilities applying to railroad only.

## EMPLOYÉS AND SALARIES.

This company pays no salaries to employés for railroad work only.

## PASSENGERS AND FREIGHT, AND TRAIN MILEAGE.

Have no detailed account.

## FREIGHT TRAFFIC MOVEMENT (Company's material excluded).

Keep no detailed statements.

## DESCRIPTION OF EQUIPMENT.

Item.	Number at End of Year.
Locomotives in service .....	2
Cars in passenger service .....	1
Cars in freight service:	
Box cars .....	5
Flat cars .....	6
Small lumber cars .....	70
Total .....	81
Total cars in service .....	82

The passenger, box, and flat cars are equipped with train brakes.

## MILEAGE.

This company operates and owns 7 miles of line between Scotia and Alton, in California. There is no capital stock represented by railroad only.

## CONSUMPTION OF FUEL BY LOCOMOTIVES.

The items relating to consumption of fuel by locomotives have not been segregated.

STATE OF CALIFORNIA,  
City and County of San Francisco. } ss.

We, the undersigned, Allen A. Curtis, President, and Geo. P. Parker, Secretary, of the Pacific Lumber Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

ALLEN A. CURTIS,  
President.  
GEO. P. PARKER,  
Secretary.

Subscribed and sworn to before me, this 7th day of September, 1896.

HENRY B. MADISON,  
Notary Public in and for the City and County of San Francisco, State of California.

## GUALALA RIVER RAILWAY COMPANY.

## HISTORY.

1. Name of common carrier making this report: Gualala River Railway Company.
2. Date of organization: February 14, 1891.
3. Under laws of what Government, State, or Territory organized: Under the Civil Code of the State of California.

## ORGANIZATION.

Names of Directors.	Post Office Address.
S. H. Harmon .....	San Francisco.
N. F. Dingley .....	San Francisco.
N. B. Heywood .....	Gualala, Mendocino County.
F. Heywood .....	San Francisco.
H. A. Powell .....	San Francisco.

The Directors were elected on February 23, 1893, to hold office one year, and until their successors were elected. No meeting of stockholders or election of Directors has been held since.

Number of stockholders at date of last election: 5.

Last meeting of stockholders for election of Directors: February 23, 1893.

Post Office address of general office: 31 Steuart Street, San Francisco.

Post Office address of operating office: Gualala, Mendocino County, California.

Name and address of officer to whom correspondence regarding this report should be addressed: F. Heywood, President, 31 Steuart Street, San Francisco.

## OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board.....	F. Heywood.....	31 Steuart St., San Francisco.
President.....	F. Heywood.....	Gualala.
Vice-President.....	W. B. Heywood.....	
Secretary.....	S. Hackley.....	
Treasurer.....	S. H. Harmon.....	42 Market St., San Francisco.
Attorney, or General Counsel.....	H. H. Powell.....	615 Safe Deposit Building, S. F.
General Manager, Chief Engineer, and General Supt.....	W. B. Heywood.....	Gualala.

## PROPERTY OPERATED.

Name.	Terminals.	Miles of Line.
Gualala River Railway.....	Bowen's Landing to Logging Camp.	12

## CAPITAL STOCK.

Description.	No. Shares Authorized.	Par Value of Shares.	Par Value Authorized.	Amount Issued and Outstanding.
Capital stock, common .....	15,000	\$500 00	\$1,500 00	\$500,000 00

## ASSETS AND LIABILITIES.

The Gualala River Railway is used merely as a logging road in connection with the Gualala Mill Company. It has no passenger traffic and no freight traffic, excepting for the Gualala Mill Company. The owners of the Gualala Mill Company are the owners of the Gualala River Railway. For these reasons no separate account has been kept of assets and liabilities.

## EARNINGS FROM OPERATION.

There is no passenger traffic on this line.

## RAILWAY STOCKS OWNED.

Name.	Total Par Value.	Valuation.
F. Heywood .....	\$124,900 00	\$7,993 60
H. A. Powell.....	100 00	6 40
S. H. Harmon.....	125,000 00	8,000 00
W. B. Heywood.....	125,000 00	8,000 00
Hannah B. Dingly.....	125,000 00	8,000 00

No income is received from these stocks.

## DESCRIPTION OF EQUIPMENT.

The equipment of this line consists of 4 freight locomotives and 32 logging cars.

## MILEAGE.

This company owns and operates 12 miles of main line (single track), from Bowen's Landing to Logging Camp.

## CHARACTERISTICS OF ROAD.

Working division: Bowen's Landing to Logging Camp, 12 miles.

Bridges: Wooden, 1,400 feet long.

Gauge of track, 5 feet 8 inches.

STATE OF CALIFORNIA,  
City and County of San Francisco. } ss.

We, the undersigned, F. Heywood, President, and S. Hackley, Secretary, of the Gualala River Railway Company, on our oath, do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all the financial operations of said company during the period for which said return is made.

F. HEYWOOD,  
President.  
S. HACKLEY,  
Treasurer.

Subscribed and sworn to before me this 8th day of July, 1896.

HENRY B. MADISON,  
Notary Public in and for the City and County of San Francisco, State of California.

## IRON MOUNTAIN RAILWAY COMPANY.

### HISTORY.

1. Name of common carrier making this report: Iron Mountain Railway Company.
3. Under laws of what Government, State, or Territory organized: State of California.

### ORGANIZATION.

Names of Directors.	Post Office Address.
Louis B. Parrott.....	San Francisco.
Charles P. Eells.....	San Francisco.
M. M. O'Shaughnessy.....	San Francisco.
C. W. Fielding.....	New York.
Alfred Fellows.....	Newcastle on Tyne.

Last meeting of stockholders for election of Directors: July 19, 1895.

Post Office address of general office: Care Messrs. Page & Eells, Mills Building, San Francisco.

Post Office address of operating office: Keswick, Shasta County, Cal.

Name and address of officer to whom correspondence regarding this report should be addressed: Alexander Hill, Manager, Keswick, Shasta County, Cal.

### OFFICERS.

Title.	Name.	Location of Office.
Chairman of the Board, and President.....	Louis B. Parrott.....	San Francisco.
Vice-President.....	Charles P. Eells.....	San Francisco.
Secretary.....	H. L. Atkinson.....	San Francisco.
Treasurer.....	F. E. Vivian Bond.....	117 Pearl Street, New York.
General Solicitor and Attorney.....	Page & Eells.....	Mills Building, San Francisco.

The duties of all other offices are performed by Alexander Hill, of Keswick, Shasta County, Cal.

### PROPERTY OPERATED.

No operations till after June 30, 1896.



## CAPITAL STOCK.

The total number of authorized shares of capital stock is 1,000, of a par value of \$100 each. Total amount issued and outstanding, \$100,000. Dividends declared during year, none.

*To the Board of Railroad Commissioners:*

The Iron Mountain line is a tramway from a mine to a smelting works, and was not completed on June 30, 1896.

We cannot fill up the various forms in this book because we have not the data.

C. W. FIELDING,  
Director.

## REPORT OF SOUTHERN PACIFIC COMPANY.

[For the year ending June 30, 1895.]

## HISTORY.

1. Name of common carrier making this report: Southern Pacific Company.
2. Date of organization: March 17, 1884.
3. Under laws of what Government, State, or Territory organized: Chartered by the Act of the State of Kentucky, Chap. 403, approved March 17, 1884; amended by Chap. 601, approved March 21, 1888.

## ORGANIZATION.

Names of Directors.	Post Office Address.
C. P. Huntington .....	23 Broad Street, New York.
T. E. Stillman .....	23 Broad Street, New York.
T. H. Hubbard .....	23 Broad Street, New York.
H. E. Huntington .....	San Francisco.
C. F. Crocker .....	San Francisco.
R. J. Wilson .....	San Francisco.
Geo. Crocker .....	San Francisco.
C. G. Lathrop .....	San Francisco.
N. T. Smith .....	San Francisco.
A. N. Towne (since deceased) .....	San Francisco.
J. C. Stubbs .....	San Francisco.

Date of expiration of terms of Directors: April 9, 1896.

Number of stockholders at date of last election: 162.

Last meeting of stockholders for election of Directors: April 3, 1895.

Post Office address of general and operating offices: No. 4 Montgomery Street, San Francisco, Cal.

## PROPERTY OPERATED.

Name of Road.	Miles.	Total Miles.
<i>Railroad line represented by capital stock—</i>		
None except through ownership of stock.		
<i>Proprietary companies whose entire capital stock is owned by this company—</i>		
Southern Pacific Railroad of California:		
San Francisco to Tres Pinos .....	100.50	
Alcalde to Mojave .....	201.83	
Mojave to Yuma .....	349.43	
Carnadero to San Miguel .....	124.30	
Los Angeles to San Pedro .....	24.24	
Hillsdale to New Almaden .....	7.80	
Pajaro to Santa Cruz .....	21.20	
Aptos to Monte Vista .....	7.44	
San Miguel to San Luis Obispo .....	45.50	
Ellwood to Saugus .....	91.50	
Castroville to Lake Majella .....	19.52	
Near Martinez to Armona .....	193.48	
Avon to San Ramon .....	19.70	
Oakdale to Merced .....	40.60	
Amount carried forward .....	1,248.04	

## PROPERTY OPERATED—Continued.

Name of Road.	Miles.	Total Miles.
Amount brought forward .....	1,248.04	
Fresno to Poso .....	104.26	
Berenda to Raymond .....	21.00	
Florence to Santa Ana .....	27.60	
Clement Junction to Santa Monica .....	15.50	
Studebaker to Whittier .....	5.90	
Long Beach to Thenard .....	3.80	
Stockton to Milton .....	30.00	
Peters to Oakdale .....	19.00	
Miraflores to Tustin .....	10.80	
Baden to San Bruno .....	3.67	
Santa Monica to Port Los Angeles .....	3.20	
Ontario to Chino .....	5.70	
Declez to Declezville .....	2.55	
Redlands Junction to Crafton .....	7.00	
Collis to Fresno .....	15.39	
Fresno to Pollasky .....	23.70	
Bakersfield to Asphalto .....	47.90	
Home Junction to Soldiers Home .....	1.80	
Shorbs (Motor) to Monrovia .....	10.40	
Burbank to Chatsworth Park .....	21.30	
San Bernardino to Motor Junction .....	7.17	
Southern Pacific Railroad of Arizona .....	392.50	
Southern Pacific Railroad of New Mexico .....	171.06	
South Pacific Coast Railway (Narrow Gauge):		
San Francisco to Santa Cruz .....	80.60	
Alameda Junction to 14th Street, Oakland .....	1.80	
Newark to Centerville .....	3.00	
Campbells to New Almaden .....	9.60	
Felton to Boulder Creek .....	7.30	
Junction south of Big Trees to Old Felton .....	1.70	
Northern Railway:		
West Oakland to Delaware Street .....	4.15	
West Oakland to Berrymans .....	5.38	
West Oakland to near Martinez .....	31.03	
Port Costa to Benicia .....	1.00	
Benicia to Suisun .....	16.33	
Woodland to Tehama .....	100.74	
Willows to Fruto .....	17.10	
Elmira to Rumsey .....	51.05	
Napa Junction to Santa Rosa .....	36.70	
Sacramento to Placerville .....	59.50	
Galt to Ione .....	27.20	
Woodbridge to Valley Springs .....	29.50	
Woodbridge to Bracks .....	10.70	
Northern California Railway:		
Oroville to Marysville .....	25.90	
Marysville to Knight's Landing .....	27.70	
		2,746.22
<i>Line operated under lease for specified sum—</i>		
California Pacific Railroad:		
Vallejo Junction to Sacramento .....	62.39	
Davis to Knight's Landing .....	18.57	
Napa Junction to Calistoga .....	34.48	
Union Pacific Railway:		
Five miles west of Ogden to Ogden .....	5.00	
		120.44
<i>Line operated under contract, or where the rental is contingent upon earnings, or other conditions—</i>		
Central Pacific Railroad:		
San Francisco to Brighton .....	134.03	
Sacramento to five miles west of Ogden .....	738.56	
Niles to San José .....	17.54	
Lathrop to Goshen .....	146.08	
Roseville to California and Oregon State line .....	296.50	
Oakland local lines .....	4.84	
Alameda local lines .....	11.46	
Amount carried forward .....	1,349.01	2,866.66

## PROPERTY OPERATED—Continued.

Name of Road.	Miles.	Total Miles.
Amount brought forward .....	1,349.01	2,866.66
Oregon & California Railroad:		
California and Oregon State line to Portland .....	366.80	
Portland to Corvallis .....	96.50	
Albany Junction to Lebanon .....	11.50	
Woodburn to Natron .....	92.70	
Dundee to Airlie .....	50.50	
Sheridan Junction to Sheridan .....	7.00	
Portland to Dundee .....	28.50	
		2,002.51
Line operated under trackage rights—		
Northern Railway, account Central Pacific Railroad:		
Brighton to Sacramento .....	5.64	
		5.64
Total Pacific System .....		4,874.81

## PROPERTY LEASED OR OTHERWISE ASSIGNED FOR OPERATION.

(Reported by lessor companies.)

## CAPITAL STOCK.

The total par value of authorized capital stock is \$150,000,000, divided into 1,500,000 shares of a par value of \$100 each. The total amount issued and outstanding is \$120,934,170. No dividends declared. The manner of payment for capital stock was as follows:

	Number Shares Issued During Year.	Total Number of Shares Issued.	Cash Realized.
Issued for cash .....		10,000.00	\$1,000,000 00
Issued for stocks of railroad companies .....	18,870	1,199,341.70	119,934,170 00
Totals .....	18,870	1,209,341.70	\$120,934,170 00

The stock of this company is issued at par and it receives therefor stock of railroad companies at rates agreed upon by the Boards of Directors.

## FUNDED DEBT.

Class of Bond or Obligation.	Authorized Issue.	Amount Issued.	Amount Outstanding.	Cash Realized on Amount Issued.
S. P. Company steamship bonds, first mortgage, Jan. 1, 1891, to Jan. 1, 1911 .....	\$3,000,000 00	\$3,000,000 00	\$2,715,000 00	\$3,000,000 00

These bonds bear 6 per cent interest, payable in January and July. The amount accrued during year was \$162,930; amount paid, \$167,220.

## RECAPITULATION OF FUNDED DEBT.

Class of Debt.	Amount Issued.	Amount Outstanding.	Interest Accrued During Year.	Interest Paid During Year.
Mortgage bonds .....	\$3,000,000	\$2,715,000	\$162,930	\$167,220



## CURRENT ASSETS AND LIABILITIES.

Cash and Current Assets Available for Payment of Current Liabilities.		Current Liabilities Accrued to and Including June 30, 1895.	
Cash .....	\$1,724,815 74	Loans and bills payable .....	\$2,349,510 69
Bills receivable .....	103,448 40	Audited vouchers and acc'ts. ....	1,882,879 68
Due from agents .....	690,951 58	Wages and salaries .....	1,972,242 22
Miscellaneous, U. S. Govt. ....	2,277,406 82	Due solvent companies and individuals .....	1,780,652 16
Miscellaneous, U. S. Govt. ....	1,101,145 52	Matured interest coupons unpaid .....	1,404,868 60
Balance—current liabilities .....	3,552,385 29		
Total .....	\$9,450,153 35	Total .....	\$9,450,153 35

Materials and supplies on hand, \$2,357,086 30.

## RECAPITULATION.

*A. For Mileage Owned by Road Making this Report.*

Account.	Total Amount Outstanding.	Apportionment to Other Properties.
Capital stock .....	\$120,934,170 00	
Bonds .....	2,715,000 00	\$2,715,000 00
Current liabilities .....	9,450,153 35	
Totals .....	\$133,099,323 35	\$2,715,000 00

This company owns no road except through ownership of capital stock of railroad companies, which is in effect a duplication. \*Deduction.

*B. For Mileage Operated by Road Making this Report (Trackage Rights Excluded), the Operations of Which are Included in the Income Account.*

Name of Road.	Capital Stock.	Funded Debt.	Current Liabilities.	Total.
Southern Pacific R. R. of California .....	\$68,402,900	\$52,593,500	\$584,607 01	\$121,581,007 01
Southern Pacific R.R. of Arizona .....	19,995,000	10,000,000	104,173 33	30,099,173 33
Southern Pacific R. R. of New Mexico .....	6,888,800	4,180,000	163,444 68	11,232,244 68
So. Pac. Coast Ry. (narrow gauge) .....	6,000,000	5,500,000		11,500,000 00
Northern Railway .....	12,896,000	9,907,000	65,463 13	22,868,463 13
Northern California Railway .....	1,280,000	1,074,000		2,354,000 00
Central Pacific Railroad .....	67,275,500	60,024,000	1,734,868 47	129,034,368 47
Oregon & California Railroad .....	19,000,000	19,625,000	698,766 80	39,323,766 80
California Pacific Railroad .....	12,000,000	6,825,500	231,244 40	19,056,744 40

Name of Road.	Miles.	Amount per Mile of Road.
Southern Pacific Railroad of California .....	1,859.99	\$65,366 47
Southern Pacific Railroad of Arizona .....	392.50	76,685 77
Southern Pacific Railroad of New Mexico .....	167.30	67,137 91
South Pacific Coast Railway (narrow gauge) .....	101.00	113,861 39
Northern Railway .....	389.38	58,730 45
Northern California Railway .....	53.60	43,917 90
Central Pacific Railroad .....	1,345.32	95,913 52
Oregon & California Railroad .....	653.50	60,174 00
California Pacific Railroad .....	113.44	167,989 63

Morgan's Louisiana & Texas Railroad and Steamship Company, Louisiana Western Railroad, and Iberia & Vermilion Railroad—not at hand.

COST OF ROAD, EQUIPMENT, AND PERMANENT IMPROVEMENTS.  
(Expenditures during year, not included in operating expenses.)

Item.	Permanent Improvements.
Construction:	
Right of way .....	\$144 77
Other real estate .....	*2,325 95
Fences .....	6,385 47
Grading, and bridge and culvert masonry .....	715 22
Bridges and trestles .....	4,385 56
Rails .....	3,268 50
Other superstructure .....	3,430 51
Buildings, furniture, and fixtures .....	44,861 35
Shop machinery and tools .....	21,327 88
Sidings and yard extensions .....	40,080 11
Other items .....	950 81
Total construction .....	\$123,224 23
Equipment:	
Locomotives .....	*\$2,119 13
Passenger cars .....	*2,000 00
Total equipment .....	*4,119 13
Total cost construction, equipment, etc. ....	\$119,105 10

This company owns no road. Construction and equipment reported by lessor companies.

INCOME ACCOUNT.

	Atlantic System.	Pacific System.	Total.
Gross earnings from operation .....	\$4,602,666 47	\$31,245,143 89	\$35,847,810 36
Less operating expenses .....	2,860,097 66	20,937,498 58	23,797,596 24
Income from operation .....	\$1,742,568 81	\$10,307,645 31	\$12,050,214 12
Dividends on stocks owned .....		\$99,750 00	\$99,750 00
Interest on bonds owned .....	111,200 00	73,233 40	184,433 40
Miscellaneous income—less expenses .....	391,074 97	594,130 05	985,205 02
Total income .....	\$2,244,843 78	\$11,074,758 76	\$13,319,602 54
Deductions from income:			
Interest on funded debt accrued .....	\$162,930 00		\$162,930 00
Interest on interest-bearing current liabilities accrued, not otherwise provided for .....	*17,825 00	59,370 06	41,545 06
Rents .....	1,000,519 15	10,095,915 90	11,096,435 05
Taxes .....	114,657 04	985,165 36	1,099,822 40
Permanent improvements .....		119,145 10	119,145 10
Other deductions .....	71,244 00	784,700 90	855,944 90
Total deductions from income .....	\$1,331,525 19	\$12,044,297 32	\$13,375,822 51
Net income .....	\$913,318 59	\$969,538 56	\$56,219 97
Deficit from operations of year ending June 30, 1895 .....			\$56,219 97
Surplus on June 30, 1894 .....			7,360,802 44
			\$7,304,582 47
Deductions for year .....			365,790 24
Surplus on June 30, 1895 .....			\$6,938,792 23

\* Deduction.

Other deductions:	
Central Pacific Railroad sinking fund .....	\$185,000 00
Central Pacific Railroad, United States requirements .....	599,700 90
Southern Pacific Company steamship sinking fund (\$75,000 less \$3,756) ..	71,244 00
	\$855,944 90

## Deductions for year:

Taxes reassessed—payable under leases by Southern Pacific Company ..	\$93,561 71
Adjustment of valuations of securities owned .....	272,228 53

\$365,790 24

EARNINGS FROM OPERATION—*Pacific System.*

Item.	Total Receipts.	Deductions, Etc.	Actual Earnings.
Passenger revenue .....	\$8,990,140 68		
Less tickets redeemed .....		\$133,235 45	
Excess fares refunded .....		10,272 70	
Total deductions .....		\$143,508 15	
Total passenger revenue .....			\$8,846,632 53
Mail .....			1,111,148 58
Express .....			582,901 74
Extra baggage and storage .....			107,765 17
Other items .....			372,681 60
Total passenger earnings .....			\$11,021,129 62
Freight revenue .....	\$19,652,149 93		
Less overcharge to shippers .....		\$415,809 16	
Other repayments .....		43,886 69	
Total deductions .....		\$464,695 85	
Total freight earnings .....			19,187,454 08
Other earnings from operation:			
Car mileage—balance .....			\$352,589 21
Locomotive mileage—balance .....			92,589 89
Telegraph companies .....			103,180 00
Rents from tracks, yards, and terminals .....			76,599 27
Rents not otherwise provided for .....			127,176 10
Other sources .....			284,425 72
Total other earnings .....			\$1,036,560 19
Total gross earnings from operation .....			\$31,245,143 89

## STOCKS OWNED.

Name.	Par Value.	Valuation.
Southern Pacific R. R. Co. of California .....	\$67,877,950 00	\$40,726,770 00
Southern Pacific R. R. Co. of Arizona .....	19,995,000 00	11,997,000 00
Southern Pacific R. R. Co. of New Mexico .....	6,800,000 00	4,133,280 00
South Pacific Coast Ry. ....	6,000,000 00	550,000 00
Northern Railway .....	12,704,700 00	12,704,700 00
Northern Cal. Ry. ....	1,280,000 00	10 00
Oregon & California R. R. Co. ....	4,000,000 00	400,000 00
Cal. Pac. R. R. Co. ....	1,794,633 33	279,830 16
M. L. & T. R. R. & S. S. Co. ....	14,995,000 00	22,444,250 00
La. West. R. R. ....	3,360,000 00	3,360,000 00
Texas & New Orleans R. R. ....	5,000,000 00	7,500,000 00
G. H. & S. A. Ry. ....	26,914,500 00	16,150,275 00
N. Y. T. & M. Ry. ....	615,000 00	500 00
Mexican International R. R. ....	4,172,100 00	834,420 00
Austin & N. W. R. R. ....	716,000 00	179,000 00
Cent. Tex. & N. W. Ry. ....	200,000 00	47,000 00
World's Columbian Exposition .....	20,000 00	18,000 00
Union Compress & W. H. Co. ....	16,000 00	10,000 00
La. Sugar Ex. ....	250 00	175 00
Cham. of Com. and Industry of La. ....	100 00	100 00
N. O. Board of Trade .....	100 00	90 00
Railway Age & Northwestern Railroader .....	500 00	500 00
Wells-Fargo Co. ....	1,750,000 00	1,925,000 00
Totals .....	\$178,300,633 33	\$123,260,900 16

Income received from stocks owned, \$99,750.

## BONDS OWNED.

Name.	Par Value.	Rate.	Income Received.	Valuation.
S. P. R. R. of Cal., 5% consolidated of 1893.	\$582,000 00	5%	\$24,250 00	\$523,800 00
Oregon & California R. R., first mortgage.	397,000 00	5%	37,612 46	374,500 00
Galveston, Harrisburg & San Antonio Ry., West. Div., second mortgage	1,110,000 00			277,500 00
Gulf, W. T. & Pac. Ry., first mortgage	2,224,000 00	5%	111,200 00	1,334,178 38
Northern Pacific Terminal Company	116,000 00	6%	11,370 94	111,400 00
Totals	\$4,429,000 00		\$184,433 40	\$2,621,378 38

RENTALS RECEIVED—*Pacific System.*

Designation of Property.	Situation of Property Leased.	Company Using Property Leased.	Item.
Tracks: Third rail privilege	Ogden, Utah	Rio Grande W. Ry.	\$7 30
Trackage right	Sacramento to Brighton	C. P. R. R.	7,200 00
Trackage right	Marysville, Cal.	Nor. Cal. Ry.	1,800 00
Yards: Ferry and river steamers	S. F. Bay and tributaries.	Pac. System lines.	16,620 38
Shops	Sacramento, Cal.		49,799 97
Terminals: Ground	San Francisco, Cal.	Various tenants	1,171 62
Total			\$76,599 27

RENTALS RECEIVED—*Atlantic System.*

Designation of Property.	Situation of Property Leased.	Company Using Property Leased.	Item.
Trackage right	New Iberia, La.	Iberia & Vermilion R.R.	\$1,113 00

MISCELLANEOUS INCOME—*Pacific System.*

Item.	Gross Income.	Less Expenses.	Net Miscellaneous Income.
Creosote works, Oakland, operation of	\$6,134 82		\$6,134 82
Rental of property	164,061 34	\$12,332 11	151,729 23
Line of S. P. R. R., Mojave to The Needles, leased to A. & P. R. R. Co.	436,266 00		436,266 00
Totals	\$606,462 16	\$12,332 11	\$594,130 05

MISCELLANEOUS INCOME—*Atlantic System.*

Item.	Gross Income.	Less Expenses.	Net Miscellaneous Income.
Morgan's steamship line	\$2,814,485 71	\$2,819,569 74	*\$5,084 03
Rental of property	2,400 00		2,400 00
Southern Pacific Co. steamships	590,865 00	268,350 00	322,515 00
Contributions to Sinking Fund	75,000 00	3,756 00	71,244 00
Totals	\$3,482,750 71	\$3,091,675 74	\$391,074 97

\* Deduction.



OPERATING EXPENSES—*Pacific System.*

Item.	Amount.
Maintenance of way and structures:	
Repairs of roadway .....	\$2,442,395 20
Renewals of rails .....	462,483 71
Renewals of ties .....	605,171 33
Repairs of bridges and culverts .....	437,863 71
Repairs of fences, road crossings, signs, and cattle guards .....	91,199 67
Repairs of buildings .....	365,376 72
Repairs of docks and wharves .....	95,638 05
Repairs of telegraph .....	3,295 92
Other expenses .....	274,935 88
.....	107,682 35
Total .....	\$4,886,042 54
Maintenance of equipment:	
Repairs and renewals of locomotives .....	\$1,189,221 37
Repairs and renewals of passenger cars .....	618,597 34
Repairs and renewals of freight cars .....	984,133 34
Repairs and renewals of ferry-boats, tugs, floats, and barges .....	101,840 04
Shop machinery, tools, etc. ....	26,279 76
Other expenses .....	261,710 59
Total .....	\$3,181,782 44
Conducting transportation:	
Wages of enginemen, firemen, and roundhouse men .....	\$1,627,728 06
Fuel for locomotives .....	3,578,893 28
Water supply for locomotives .....	125,211 50
All other supplies for locomotives .....	62,157 09
Wages of other trainmen .....	1,186,280 40
All other train supplies .....	107,412 78
Wages of switchmen, flagmen, and watchmen .....	376,879 85
Expense of telegraph, including train dispatchers and operators .....	419,110 95
Wages of station agents, clerks, and laborers .....	1,540,724 80
Station supplies .....	81,114 80
Switching charges—balance .....	12,986 93
Car mileage—balance .....	410,152 69
Loss and damage .....	89,579 57
Injuries to persons .....	133,667 94
Barges, floats, tugs, ferry-boats, expenses of, including wages, fuel, and supplies .....	530,915 63
Other expenses .....	317,695 65
Total .....	\$10,600,511 97
General expenses:	
Salaries of officers .....	\$339,496 29
Salaries of clerks .....	565,986 93
General office expenses and supplies .....	46,887 90
Agencies, including salaries and rent .....	230,199 12
Advertising .....	117,116 49
Commissions .....	11,744 80
Expense of traffic associations .....	7,587 72
Rents for tracks, yards, and terminals .....	276,655 03
Rents not otherwise provided for .....	156,101 28
Legal expenses .....	287,470 25
Stationery and printing .....	98,593 31
Other general expenses .....	131,322 51
Total .....	\$2,269,161 63
Recapitulation of expenses:	
Maintenance of way and structures .....	\$4,886,042 54
Maintenance of equipment .....	3,181,782 44
Conducting transportation .....	10,600,511 97
General expenses .....	2,269,161 63
Grand total .....	\$20,937,498 58
Percentage of operating expenses to earnings .....	67.01

RENTALS PAID—*Pacific System.**A. Rents Paid for Lease of Road.*

Name of Road.	Interest on Bonds Guaranteed.	Cash.	Total.
Southern Pacific R. R. of California .....	\$2,874,877 74	\$526,322 26	\$3,401,200 00
Southern Pacific R. R. of Arizona .....	600,000 00	119,618 70	719,618 70
Southern Pacific R. R. of New Mexico .....	250,860 00	71,771 22	322,571 22
South Pacific Coast Railway .....	220,000 00	—	220,000 00
Northern Railway .....	546,910 00	305,708 72	852,618 72
Northern California Railway .....	53,700 00	—	53,700 00
Central Pacific Railroad .....	3,349,952 00	144,593 80	3,494,546 30
.....	.....	10,000 00	10,000 00
Oregon & California Railroad .....	938,850 00	*541,355 71	397,494 29
.....	.....	4,166 67	4,166 67
California Pacific Railroad .....	.....	600,000 00	600,000 00
Union Pacific Railroad .....	.....	20,000 00	20,000 00
Totals .....	\$8,835,090 24	\$1,260,825 66	\$10,095,915 90

\* Deduction.

*B. Rents Paid for Lease of Other Property.*

Designation of Property.	Situation of Property Leased.	Company Owning Property Leased.	Item.	Total.
Steamers .....	Bay of San Francisco and tributaries .....	Various lines Pacific System .....	.....	\$19,245 38
Trackage right .....	Rio Grande and El Paso .....	G., H. & S. A. Ry. .....	\$8,492 04	.....
Trackage right .....	Marysville, Cal. ....	C. P. R. R. ....	1,800 00	.....
Trackage right .....	Sacramento to Brighton .....	Northern Ry. ....	7,200 00	.....
Willamette River Bridge .....	Portland, Oregon .....	U. P. Ry. ....	10,000 00	.....
Total .....	.....	.....	.....	27,492 04
Right of way .....	San Francisco, Cal. ....	Hastings .....	.....	.....
Right of way .....	San Francisco, Cal. ....	Payne & Dewy .....	.....	.....
Shops .....	San Francisco, Cal. ....	Pacific Imp. Co. ....	\$7,500 00	.....
Shops .....	El Paso, Texas .....	G., H. & S. A. Ry. Co. ....	9,000 00	.....
Shops .....	Sacramento .....	C. P. R. R. ....	49,799 97	.....
Total .....	.....	.....	.....	66,299 97
Terminals:	.....	.....	.....	.....
Depot grounds .....	Ogden, Utah .....	Ogden, Utah, Ry. and Dep. Co. ....	\$9,000 00	.....
Grounds .....	San Francisco, Cal. ....	C. A. Hooper Co. ....	20,000 04	.....
.....	San Francisco, Cal. ....	Pacific Imp. Co. ....	96,000 00	.....
.....	Portland, Oregon .....	N. P. Terminal Co. ....	38,612 60	.....
.....	Pajaro .....	.....	5 00	.....
Total .....	.....	.....	.....	163,617 64
Grand total .....	.....	.....	.....	\$276,655 03

## RENTALS PAID—Atlantic System.

## A. Rents Paid for Lease of Road.

Name of Road.	Interest on Bonds Guaranteed.	Cash.	Total.
Morgan's L. & T. R. R. & S. S. Co. ....	\$452,088 64	\$318,544 21	\$770,632 85
Louisiana Western R. R. ....	134,400 00	83,733 05	218,133 05
Iberia & Vermilion R. R. ....	16,100 00	*4,346 75	11,753 25
Totals .....	\$602,588 64	\$397,930 51	\$1,000,519 15

\* Deduction.

## B. Rents Paid for Lease of Other Property.

Designation of Property.	Situation of Property Leased.	Name of Company Owning Property Leased.	Item.	Total.
Trackage right .....	Pacific Junction to Cheneyville .....	La. T. & P. Ry. Co. ....	\$10,620 00	
Trackage right .....	New Iberia, La. ....	M. L. & T. R. R. & S. Co. ....	1,113 00	
Total .....				\$11,733 00
Shops .....	Houston, Texas .....	T. & N. O. R. R. Co. ....		400 00
Grand total .....				\$12,133 00

## COMPARATIVE GENERAL BALANCE SHEET.

June 30, 1894.	Assets.	June 30, 1895.	June 30, 1895—Increase.	June 30, 1895—Decrease.
\$123,497,150 16	Stocks of other companies owned .....	\$123,260,900 16		\$236,250 00
3,053,525 66	Bonds of other companies owned .....	2,621,378 38		432,147 28
6,556,196 14	Other permanent invest'ts .....	6,574,195 34	\$17,999 20	
4,951,089 07	Cash and current assets .....	5,897,768 06	946,678 99	
4,119,591 25	Materials and supplies .....	2,357,086 30		1,762,504 95
75,900 00	Sinking fund .....	594 00		75,306 00
	Sundries .....	429,245 34	429,245 34	
\$142,253,452 28	Totals .....	\$141,141,167 58		
June 30, 1894.	Liabilities.	June 30, 1895.	June 30, 1895—Decrease.	
\$120,934,170 00	Capital stock .....	\$120,934,170 00		
2,858,000 00	Funded debt .....	2,715,000 00		\$143,000 00
10,055,638 51	Current liabilities .....	9,450,153 35		605,485 16
826,941 33	Accrued interest on funded debt not yet payable .....	817,458 00		9,483 33
217,900 00	Income for sinking funds .....	285,594 00		67,694 00
7,360,802 44	Profit and loss .....	6,938,792 23		354,316 21
\$142,253,452 28	Totals .....	\$141,141,167 58		\$1,112,284 70

## IMPORTANT CHANGES DURING THE YEAR.

Steamship bonds redeemed to the amount of \$143,000.

Under date of October 1, 1894, materials and supplies required in the operation of the Central Pacific Railroad were transferred to the ownership of that company.

## CONTRACTS, AGREEMENTS, ETC.

1. *Express Companies.*—Contract with Wells, Fargo & Co., provides that the railroad shall transport express matter, and that payment therefor shall be made by Wells, Fargo & Co. at agreed rates.

2. *Mails.*—Rates are fixed by U. S. Government. On the Central Pacific and Southern Pacific and Oregon & California railroads, these rates are subject to the terms of the several Acts of Congress granting aid for the construction of said railroads.

3. *Sleeping, Parlor, or Dining Car Companies.*—Sleeping cars are operated by the Pullman Palace Car Co., which company owns an interest in the cars. The net profit or loss from their operation is divided in proportion to the interest owned by each company. The Pullman Company has no interest in this company's dining cars, but operates them for account of this company.

4. *Freight or Transportation Companies or Lines.*— } Copies of these contracts have  
5. *Other Railroad Companies.*— } already been filed with the  
6. *Steamboat or Steamship Companies.*— } Commission.

7. *Telegraph Companies.*—Telegraph lines are operated jointly by Western Union Telegraph Co. and this company under contracts entered into by the several lessor companies. The telegraph lines of the South Pacific Coast Railway are operated jointly with the Pacific Postal Telegraph Cable Co.

8. *Other Contracts.*—The Central Pacific Railroad, the Southern Pacific Railroad, and the Oregon & California Railroad, each received aid in its construction from the United States, and are subject by the Acts granting such aid to certain restrictions and conditions regarding the transportation of freight, passengers, and mails. These Acts of Congress constitute contracts between the railroad and the United States.

## SECURITY FOR FUNDED DEBT.

Southern Pacific Company Steamship bonds, seven steamships mortgaged.

## EMPLOYÉS AND SALARIES.

Class.	Number.	Total Days Worked.	Yearly Compensation.	Average Daily Compensation.
General officers .....	71	22,223	\$361,079 04	\$16 25
Other officers .....	12	3,756	46,868 04	12 48
General office clerks .....	515	161,195	562,221 72	3 49
Station agents (including agents who are also operators) .....	542	169,646	431,619 72	2 54
Other stationmen (including men who are also operators) .....	1,336	418,168	1,065,658 08	2 55
Enginemen .....	677	211,901	956,403 96	4 51
Firemen .....	745	233,185	543,722 41	2 33
Conductors .....	379	118,627	489,144 00	4 12
Other trainmen .....	841	263,233	802,343 88	3 05
Machinists .....	389	121,757	421,100 28	3 46
Carpenters .....	768	240,384	775,815 36	3 23
Other shopmen .....	2,617	819,121	1,920,982 68	2 35
Section foremen .....	581	181,853	480,474 72	2 64
Other trackmen .....	3,952	1,236,976	1,853,578 32	1 50
Switchmen, flagmen, and watchmen .....	442	138,346	384,601 44	2 78
Telegraph operators and dispatchers (excluding men as shown above) .....	234	73,242	251,186 88	3 43
Employés—account floating equipment .....	331	103,603	288,896 64	2 79
All other employés and laborers .....	703	220,039	698,049 60	3 17
Total (including general officers) .....	15,135	4,737,255	\$12,333,746 77	\$2 60
Less general officers .....	71	22,223	361,079 04	16 25
Total (excluding general officers) .....	15,064	4,715,032	\$11,972,667 73	\$2 54
Distribution of above:				
General administration .....	598	187,174	\$979,168 80	\$5 18
Maintenance of way and structures .....	4,936	1,544,968	2,755,088 40	1 75
Maintenance of equipment .....	3,371	1,055,123	2,696,862 96	2 56
Conducting transportation .....	6,230	1,949,990	5,911,626 61	3 03
Total (including general officers) .....	15,135	4,737,255	\$12,333,746 77	\$2 60
Less general officers .....	71	22,223	361,079 04	16 25
Total (excluding general officers) .....	15,064	4,715,032	\$11,972,667 73	\$2 54



PASSENGERS AND FREIGHT, AND TRAIN MILEAGE—*Pacific System.*

Item.	Tonnage, Passengers, etc.	Revenue and Rates.
<b>Passenger traffic:</b>		
Number of passengers carried earning revenue.....	17,666,401	
Number of passengers carried one mile.....	446,542,324	
Average distance carried—miles.....	25.28	
Total passenger revenue.....		\$8,846,632 53
Average amount received from each passenger.....		50.076
Average receipts per passenger per mile.....		01.981
Estimated cost of carrying each passenger one mile.....	Cannot state.	
Total passenger earnings.....		11,021,129 62
Passenger earnings per mile of road.....		2,260 83
Passenger earnings per train mile.....		1 45.519
<b>Freight traffic:</b>		
Number of tons carried of freight earning revenue.....	6,200 899	
Number of tons carried one mile.....	1,630,659,031	
Average distance haul of one ton—miles.....	262.971	
Total freight revenue.....		19,187,454 08
Average amount received for each ton of freight.....		3 09.430
Average receipts per ton per mile.....		01.177
Estimated cost of carrying one ton one mile.....	Cannot state.	
Total freight earnings.....		19,187,454 08
Freight earnings per mile of road.....		3,936 04
Freight earnings per train mile.....		1 92.575
<b>Passenger and freight:</b>		
Passenger and freight revenue.....		28,034,086 61
Passenger and freight revenue per mile of road.....		5,750 81
Passenger and freight earnings.....		30,208,583 70
Passenger and freight earnings per mile of road.....		6,196 87
Gross earnings from operation.....		31,245,143 89
Gross earnings from operation per mile of road.....		6,409 51
Expenses.....		20,937,498 58
Expenses per mile of road.....		4,295 04
<b>Train mileage:</b>		
Miles run by passenger trains.....	7,418,636	
Miles run by freight trains.....	9,498,522	
Miles run by mixed trains.....	620,163	
Total mileage trains earning revenue.....	17,537,324	
Miles run by switching trains.....	2,487,575	
Miles run by construction and other trains.....	721,174	
Grand total train mileage.....	20,746,073	
Mileage of loaded freight cars—north or east.....	120,195,710	
Mileage of empty freight cars—north or east.....	44,002,214	
Average number of freight cars in train.....	16.480	
Average number of loaded cars in train.....	12.064	
Average number of empty cars in train.....	4.416	
Average number of tons of freight in train.....	163.661	
Average number of tons of freight in each loaded car.....	13.567	

FREIGHT TRAFFIC MOVEMENT (Company's material excluded)—*Pacific System.*

Commodity.	Freight Tonnage.	Per Cent.
<b>Products of agriculture:</b>		
Grain .....	596,583	9.62
Flour .....	98,122	1.58
Other mill products .....	56,945	.92
Hay .....	199,929	3.23
Tobacco .....	5,520	.09
Cotton .....	5,821	.09
Fruit and vegetables .....	491,187	7.92
Other .....	117,939	1.90
<b>Products of animals:</b>		
Live stock .....	282,223	4.55
Dressed meats .....	15,088	.25
Other packing-house products .....	13,115	.21
Poultry, game, and fish .....	19,212	.31
Wool .....	33,024	.53
Hides and leather .....	20,284	.33
Other .....	3,755	.06
<b>Products of mines:</b>		
Bituminous coal .....	205,616	3.32
Coke .....	40,652	.66
Ores .....	36,395	.59
Base metal, pig or bar .....	20,991	.34
Stone, sand, and other like articles .....	211,848	3.42
Other .....	16,198	.26
<b>Products of forest:</b>		
Lumber .....	460,687	7.43
Wood .....	172,126	2.78
Other .....	7,595	.12
<b>Manufactures:</b>		
Petroleum and other oils .....	118,416	1.91
Sugar .....	104,128	1.68
Naval stores .....	3,499	.05
Iron, pig and bloom .....	21,059	.34
Iron and steel rails .....	11,126	.18
Other castings and machinery .....	17,787	.29
Bar and sheet metal .....	23,282	.37
Cement, brick, and lime .....	112,530	1.81
Agricultural implements .....	6,144	.10
Wagons, carriages, tools, etc. ....	21,449	.34
Wines, liquors, and beers .....	176,099	2.84
Household goods and furniture .....	14,339	.23
Other .....	258,218	4.16
Merchandise .....	743,097	11.98
Miscellaneous: Other commodities not mentioned above .....	189,655	3.06
Company .....	1,249,216	20.15
<b>Total tonnage .....</b>	<b>6,200,899</b>	<b>100.00</b>

DESCRIPTION OF EQUIPMENT—*Pacific System.*

Item.	Added During Year.	Number at End of Year.	With Train Brake.*	With Automatic Coupler.
Locomotives:				
Passenger and freight.....	Dec. 12	667	663	
Switching.....	Dec. 2	42	42	
Total locomotives.....	Dec. 14	709	705	
Cars in passenger service:				
First-class passenger cars.....	Dec. 4	435	430	435 Miller.
Second-class passenger cars.....		89	89	89 Miller.
Combination passenger cars.....	Dec. 1	47	45	47 Miller.
Emigrant cars—tourist.....		73	73	73 Miller.
Dining cars.....		7	7	7 Miller.
Parlor cars.....	Dec. 1	2	2	2 Miller.
Sleeping cars—first-class.....	Dec. 2	90	90	90 Miller.
Baggage, express, and postal cars.....	Inc. 1	187	186	187 Miller.
Other cars in passenger service.....		1		
Totals.....	Dec. 7	931	922	930 Miller.
Cars in freight service:				
Box cars.....	Inc. 33	9,636	8,976	{ 138 California. 504 California.
Flat cars.....	Dec. 207	4,233	3,492	42 California.
Stock cars.....	Dec. 1	21	16	
Coal cars.....	Dec. 5	638	638	
Tank cars—oil cars.....		2	2	
Refrigerator cars.....	Inc. 5	32	32	{ 5 Miller. 4 California.
Totals.....	Dec. 175	14,562	13,156	{ 143 Miller. 550 California.
Cars in company's service:				
Officers, 11; pay, 2.....	Inc. 3	13	13	13 Miller.
Gravel cars.....	Dec. 14	89		
Derrick cars.....		12	11	
Caboose cars.....	Dec. 1	257	3	
Other road cars.....	Dec. 2	161	54	11 Miller.
Water cars.....		87	85	
Totals.....	Dec. 14	619	166	24 Miller.
Total cars owned.....	Dec. 196	16,112	14,244	{ 1,097 Miller. 550 California.

\* Westinghouse.

MILEAGE—*Pacific System.*A. *Mileage of Road Operated.*

Line in Use.	Line of Proprietary Companies.	Line Operated Under Lease.	Line Operated Under Contract, etc.	Line Operated Under Trackage Rights.	Total Mileage Operated.
Miles of single track.....	2,746.22	120.44	2,002.51	5.64	4,874.81
Miles of second track.....	43.62		9.51		53.13
Miles of yard track and sidings.....	582.25	36.11	397.56		1,015.92
Total mileage operated (all tracks)	3,372.09	156.55	2,409.58	5.64	5,943.86

## MILEAGE—Continued.

Line in Use.	New Line Con- structed During Year.	Iron Rails.	Steel Rails.	Ferry.
Miles of single track .....		126.80	4,738.32	9.69
Miles of second track .....		58	52.55	
Miles of yard track and sidings .....	23.54	632.37	383.55	
Total mileage operated (all tracks) .....	23.54	759.75	5,174.42	9.69

*B. Mileage of Line by States and Territories, and of Line Operated by Road Making this Report.*

State or Territory.	Line of Proprietary Companies.	Line Operated Under Lease.	Line Operated Under Contract, etc.	Total Mileage, Excluding Trackage Rights.	Line Operated Under Trackage Rights.
State of California .....	2,182.15	115.44	750.64	3,048.23	5.64
State of Nevada .....			448.73	448.73	
State of Oregon .....			653.50	653.50	
State of Texas .....	3.76			3.76	
Territory of Arizona .....	393.01			393.01	
Territory of New Mexico .....	167.30			167.30	
Territory of Utah .....		5.00	149.64	154.64	
Total mileage operated (single track) .....	2,746.22	120.44	2,002.51	4,869.17	5.64

State or Territory.	Iron Rails.	Steel Rails.	Ferry.
State of California .....	91.27	2,952.91	9.69
State of Nevada .....		448.73	
State of Oregon .....	35.53	617.97	
State of Texas .....		3.76	
Territory of Arizona .....		393.01	
Territory of New Mexico .....		167.30	
Territory of Utah .....		154.64	
Total mileage operated (single track) .....	126.80	4,738.32	9.69

*C. Mileage Owned by Road Making this Report.*

(Reported by lessor companies.)

RENEWALS OF RAILS AND TIES—*Pacific System.*

New Rails Laid During Year.	Tons .....	Weight Per Yard—lbs. .....	Average Price per Ton at Distributing Point.....	New Ties Laid During Year.	Number .....	Average Price at Distribut- ing Point.....
Steel .....	14,260.83	61.50	\$45 00	6x8x8 ft. redwood .....	73,794	\$0 45
Steel .....	1,000.85	76.00	45 00	7x8x8 ft. redwood .....	828,549	50
				7x9x8 ft. redwood .....	111,652	58
				6x8x8 ft. mountain .....	121,780	35
				7x8x8 ft. mountain .....	138,229	35
				7x9x8 ft. mountain .....	314	35
				Burnettized .....	271,609	45
Totals .....	15,261.68		\$45 00	Totals .....	1,545,927	\$0 46.935



## CONSUMPTION OF FUEL BY LOCOMOTIVES.

Locomotives.	Bituminous Coal—Tons.	Soft Wood— Cords.	Total Fuel Consumed— Tons.	Miles Run.	Average lbs. Consumed per Mile.
Passenger.....	177,605.3	35,243.3	195,228	7,418,636	53
Freight, including way switching.....	394,807.0	45,265.2	417,439	9,898,734	84
Switching.....	42,087.1	5,818.1	44,996	2,087,363	43
Construction work.....	16,848.0	6,461.1	20,078	721,174	56
Mixed.....	16,116.3	4,462.3	18,348	620,166	59
Totals.....	647,464.3	97,251.2	696,089	20,746,073	67

Average cost at distributing point: Coal, \$4 85 per ton; wood, \$3 93 per cord.

ACCIDENTS TO PERSONS—*In California.*

Kind of Accident.	Trainmen.		Switchmen, Flagmen, Watchmen.		Other Employés.		Total.	
	Killed .....	Injured .....	Killed .....	Injured .....	Killed .....	Injured .....	Killed .....	Injured .....
Coupling and uncoupling.....	1	78	3	54	1	15	5	147
Falling from trains and engines.....	6	19	1	7	.....	2	7	28
Overhead obstructions.....	2	13	.....	1	.....	1	2	15
Collisions.....	2	21	.....	8	.....	6	2	35
Derailments.....	1	18	.....	1	.....	2	1	21
Other train accidents.....	1	20	.....	.....	1	11	2	31
At stations.....	.....	37	.....	2	1	3	1	42
Other causes.....	5	125	2	24	4	39	11	188
Totals.....	18	331	6	97	7	79	31	507

Kind of Accident.	Passengers.		Others.				Total.	
	Killed .....	Injured .....	Trespassing.		Not Trespassing.		Killed .....	Injured .....
Collisions.....	.....	17	1	.....	.....	6	1	6
Derailments.....	2	49	.....	.....	4	14	4	14
Other train accidents.....	.....	7	.....	2	1	2	1	4
At highway crossings.....	.....	.....	.....	.....	7	18	7	18
At stations.....	.....	31	1	24	1	6	2	30
Other causes.....	8	70	82	108	.....	8	82	116
Totals.....	10	174	84	134	13	54	97	188

## CHARACTERISTICS OF ROAD.

(Reported by lessor companies.)

## CAR MILEAGE.

*List of Individuals, Coöperative Fast Freight Lines, and Stock Companies, to which the Company Making this Report Pays Mileage for the Use of Cars.*

Abernathy Furniture Co.	Jacob Dold Packing Co.
American Refrigerator Transit Co.	Kansas City Dressed Beef Line.
American Brewing Co.	Kansas City Manufacturers' Despatch.
Armour Car Lines.	Kingan Refrigerator Line.
Arms Palace Horse Car Co.	Libby, McNeil & Libby.
Atlanta Stone, Coal, and Lumber Co. Lines.	Lipton Refrigerator Line.
Bear Creek Refining Co.	Live Poultry Transportation Co.
Blue Line.	Merchants' Despatch Transportation Co.
Boyd, Lunham & Co.	Merchants and Planters' Oil Co.
California Fruit Express.	Morris & Co. Refrigerator Line.
California Fruit Transportation Co.	National Despatch Line.
Canadian Pacific Despatch.	National Fruit Despatch.
Canda Cattle Car Co.	National Linseed Oil Co.
Canada Southern Line.	National Rolling Stock Co.
Carnegie Steel Co.	New England Car Co.
Central Equipment Co.	New York Despatch Refrigerator Line.
Chicago Refrigerator Car Line.	Pacific Coast Oil Co.
Corle Oatmeal Co.	Peavey Grain Line.
Climax Gasoline Co.	Pullman's Palace Car Co.
Continental Fruit Express.	Red Line.
Cottolene Refrigerator Line.	San Francisco Breweries' Car and Transportation Co. (Limited).
Cudahy Refrigerator Line.	St. Charles Car Co.
Cudahy Milwaukee Refrigerator Line.	St. Louis Refrigerator Car Co.
Commerce Despatch Line.	Southern Iron Car Line.
Eagle Consolidated Tank Line.	Southwestern Millers' Despatch.
Empire Line.	Southern Despatch Lumber Line.
Erie Despatch.	Street's Western Stable Car Line.
Goodell Refrigerator Car Co.	Swift Refrigerator Line.
Hammond Refrigerator Line.	Texas & Pacific Coal Co.
Havens & Co.	Union Refrigerator Transit Co.
Healy Refrigerator Line.	Union Tank Line.
Hicks Stock Car Co.	Wagner Palace Car Co.
Independent Refining Co.	Waters-Pierce Oil Co.
International Fruit Dealers' Despatch.	Waverly Oil Co.
Interstate-Ventilated Refrig'r Car Line.	White Star Transportation Co.
International Oil Works.	

STATE OF CALIFORNIA, }  
City and County of San Francisco. } ss.

We, the undersigned, Chas. F. Crocker, Vice-President, and Geo. T. Klink, Secretary pro tem. of the Southern Pacific Company, on our oath do severally say that the foregoing return has been prepared, under our direction, from the original books, papers, and records of said company; that we have carefully examined the same, and declare the same to be a complete and correct statement of the business and affairs of said company in respect to each and every matter and thing therein set forth, to the best of our knowledge, information, and belief; and we further say that no deductions were made before stating the gross earnings or receipts herein set forth, except those shown in the foregoing accounts; and that the accounts and figures contained in the foregoing return embrace all of the financial operations of said company during the period for which said return is made.

CHAS. F. CROCKER,  
Vice-President.

GEORGE T. KLINK,  
Secretary and Controller pro tem.

Subscribed and sworn to before me, this 26th day of February, 1896.

[SEAL.]

E. B. RYAN,  
Notary Public in San Francisco, Cal.

TABLE No. 1.

FINANCIAL STATEMENT—ENDING JUNE 30, 1896.

Companies.	Length of Road—Miles in State.	Cost of Construction, Including Buildings, Land, Fences, Tools, Salaries, Etc.	Cost of Equipment.	Capital Stock Issued.	Funded Debt Issued and Now Outstanding.	Floating Debt.	Gross Earnings.	Operating Expenses.	Net Income from Operation.
Southern Pacific Co.	4,920.98						At. & Pac. Sys. { \$4,020,807 07 \$2,639,785 71 \$2,236,624 46	At. & Pac. Sys. { \$2,639,785 71 \$2,056,812 64	Pac. System. { \$11,269,811 82
	3,101.61	Reported by Lessor Co. s.	Reported by Lessor Co. s.	\$120,995,070 00	\$2,644,000 00	\$7,936,947 67			
Central Pacific Co.	6,041.00								
		Reported by Lessor Co. s.	Reported by Lessor Co. s.						
Southern Pacific Railroad Co. of Cal.	\$	\$171,311,848 80	†	67,275,500 00	87,738,680 00	1,984,430 80	\$	\$	\$
California Pacific Railroad Co.	\$	130,182,264 98	\$4,094,428 08	70,006,100 00	52,326,500 00	773,331 50	\$	\$	\$
Northern Railway Co.	\$	19,882,093 24	†	12,000,000 00	6,825,500 00	170,055 00	\$	\$	\$
South Pacific Coast Railway Co.	\$	24,766,776 83	†	12,896,000 00	9,907,000 00	47,663 41	\$	\$	\$
Northern California Railroad Co.	\$	11,500,000 00	†	6,000,000 00	5,500,000 00		\$	\$	\$
Southern California Railroad Co.	493.18	2,354,000 00	†	1,280,000 00	1,074,000 00		\$	\$	\$
Atlantic & Pacific Railroad Co.	242.37	25,291,292 87	506,787 58	6,752,000 00	12,287,634 78	2,301,439 50	\$2,164,508 23	\$1,882,354 58	\$282,153 65
San Francisco & North Pacific R. Co.	165.32	165,390 20	†	†	†	†	882,585 82	869,213 88	13,371 94
Carson & Colorado Railroad Co.	307.25	392,638 99	44,457 32	6,000,000 00	4,136,000 00	87,771 54	730,957 73	520,878 63	270,079 70
North Pacific Coast Railroad Co.	91.25	6,380,000 00	†	4,380,000 00	2,000,000 00	235,104 08	149,965 41	108,248 27	41,717 14
Pacific Coast Railway Co.	78.00	3,035,369 52	†	1,500,000 00	1,498,000 00	57,993 58	353,365 32	267,074 24	86,291 08
Nevada-California-Oregon R. Co.	79.00	2,354,018 52	†	1,370,400 00	1,370,000 00	286,175 60	112,372 38	80,000 04	32,372 34
Feel River & Eureka Railroad Co.	25.00	67,303 78	1,424 26	2,200,000 00	None.	42,176 66	59,280 31	41,866 00	17,414 31
		635,334 17	89,472 03	480,000 00	478,000 00	11,294 86	92,317 55	42,027 49	50,290 08

Nevada County Narrow Gauge .....	22.50	553,975 79	76,305 22	250,200 00	250,000 00	19,864 17	105,840 12	73,465 64	32,373 48
National City & Otay Railway Co. ....	26.46	364,957 90	440,852 47	200,000 00	†	†	31,008 25	28,751 64	2,256 61
Colusa & Lake Railroad Co. ....	22.00	162,223 08	31,846 27	100,500 00	66,000 00	4,454 15	13,608 37	12,604 66	1,003 71
Arcata & Mad River Railroad Co. ....	18.50	164,950 24	2,900 00	187,740 00	None.	546 82	59,971 52	60,505 60	*534 08
Visalia Railroad Co. ....	8.00	167,616 97	†	100,000 00	None.	None.	15,564 37	11,516 00	4,048 37
Los Angeles & Redondo Railway Co. ....	17.70	398,578 83	111,125 26	538,700 21	None.	61,980 20	64,334 05	51,383 74	12,948 31
San Diego, Cuyamaca & Eastern Ry. Co. ....	25.37	1,279,670 51	47,348 82	769,000 00	556,816 00	266,951 16	38,955 50	27,445 60	11,509 90
Los Angeles Terminal Railway Co. ....	50.20	4,570,210 62	†	3,000,000 00	1,500,000 00	74,516 74	106,105 28	96,740 34	9,364 94
San Diego, Pacific Beach & La Jolla Ry. Co. ....	13.54	150,177 86	38,562 95	275,000 00	None.	14,145 46	12,624 77	16,348 77	*3,724 00
San Fran. & San Joaquin Valley Ry. Co. ....	131.70	1,304,702 24	198,858 82	6,000,000 00	None.	113,206 31	None.	None.	None.
Crescent City & Smith River R. R. Co. ....	16.35	274,962 35	38,864 70	None.	None.	None.	16,912 38	7,899 57	9,012 81
Pajaro Valjejo Railroad Co. ....	23.70	286,790 52	64,413 82	300,000 00	None.	None.	70,045 13	51,610 34	18,484 79
California Railway .....	6.00	85,791 47	44,147 11	500,000 00	None.	34,836 17	15,222 76	19,464 31	*4,141 55
Alameda & San Joaquin Railroad Co. ....	36.10	386,474 02	31,936 86	500,000 00	None.	12,000 00	None.	None.	None.
Santa Ana & Newport Railway Co. ....	12.10	262,000 00	21,617 98	20,000 00	250,000 00	3,259 26	62,444 43	37,664 88	24,779 55
Chino Valley Railroad Co. ....	10.00	80,000 00	†	None.	None.	None.	1,500 00	†	†
The Pacific Lumber Co. ....	7.00	183,000 00	72,000 00	None.	None.	None.	4,934 56	7,989 81	*3,055 25
Iron Mountain Railway Co. ....	†	†	†	100,000 00	†	†	†	†	†
Gualala River Railway Co. ....	12.00	†	†	500,000 00	†	†	†	†	†
Yreka Railroad Co. ....	7.50	103,566 36	15,510 75	99,075 00	48,902 57	3,902 57	14,286 22	8,380 13	5,897 09
Visalia & Tulare Railroad Co. ....	11.50	95,268 28	21,150 78	60,000 00	50,000 00	23,678 77	8,991 50	6,900 58	2,090 92
Railroad mileage of California .....	5,061.20	\$409,173,438 94	\$5,994,952 68	\$326,635,285 21	\$190,507,033 35	\$14,567,725 98	\$11,405,233 49	\$27,826,943 69	\$12,197,222 54

† Not reported. † Included in construction. † Reported by Southern Pacific Company, lessee.

\* Deficit. ¶ This item is exclusive of rentals, taxes, and interest.



TABLE NO. 2.—TRAFFIC STATEMENT—ENDING JUNE 30, 1896.

Companies.	Total Number of Passengers Carried.	Average Rate of Fare per Mile, in Cents.	Total Tons of Freight Hauled.	Average Rate of Freight per Ton per Mile, in Cents.	Total Miles Run by Freight Trains.	Total Miles Run by Mixed Trains.	Total Train Mileage.
Southern Pacific Co. (Pacific System) .....	19,164,185	.0193	6,453,336	.0176	8,045,942	673,498	18,824,768
Central Pacific Railroad Co. ....	§	§	§	§	§	§	§
Southern Pacific Railroad Co. of California .....	§	§	§	§	§	§	§
California Pacific Railroad Co. ....	§	§	§	§	§	§	§
Northern Railway Co. ....	§	§	§	§	§	§	§
Northern California Railway Co. ....	§	§	§	§	§	§	§
South Pacific Coast Railway Co. ....	775,763	.03386	569,972	.02463	925,877	111,927	1,434,330
Southern California Railway Co. ....	52,909	.02003	315,473	.00947	301,514	None.	683,767
Atlantic & Pacific Railway Co. ....	891,502	.02030	153,745	.0496	254,472	45,817	883,019
San Francisco & North Pacific Railroad Co. ....	8,161	.0617	17,725	.0375	None.	138,309	144,295
Carson & Colorado Railroad Co. ....	1,167,427	.01278	71,798	.03828	222,402	None.	308,617
North Pacific Coast Railroad Co. ....	34,155	.01176	47,380	.05017	193,399	None.	462,756
Pacific Coast Railway Co. ....	§	§	§	§	§	§	§
Los Angeles & Pacific Railroad Co. ....	§	§	§	§	§	§	§
Nevada-California-Oregon Railroad Co. ....	4,640	.04457	16,461	.03748	None.	53,070	53,070
Bel River & Eureka Railroad Co. ....	32,811	.0419	71,843	.0433	None.	54,600	54,600
Nevada County Narrow Gauge Railroad Co. ....	49,450	.06360	26,461	.11986	7,512	67,244	71,756
National City & Owy Railroad Co. ....	97,099	†	§	†	27,088	1,850	43,556
Columbia & Lake Railroad Co. ....	7,617	.07090	6,663	†	None.	1,800	21,100
Arcata & Mad River Railroad Co. ....	24,752	†	6,473	†	None.	24,752	24,752
Visalia Railroad Co. ....	14,616	.5625	8,753	.11	None.	11,531	11,531
Yreka Railroad Co. ....	12,918	†	3,690	.161	None.	None.	25,185
Visalia & Tulare Railroad Co. ....	13,463	†	941	.0781	40,821	None.	62,200
Los Angeles & Redondo Railway Co. ....	77,582	.01594	22,493	.0781	6,219	None.	38,277
San Diego, Oryunaca & Eastern Railway Co. ....	41,463	.02260	11,987	.07161	None.	32,928	None.
Sierra Valley & Mohawk Railroad Co. ....	§	§	§	§	§	§	§
Los Angeles Terminal Railway Co. ....	163,666	.01788	46,304	.07128	43,000	43,008	150,873
San Diego, Pacific Beach & La Jolla Railway Co. ....	37,359	.01682	1,352	.33239	None.	32,630	32,630
San Francisco & San Joaquin Valley Railway Co. ....	None.	None.	None.	None.	None.	None.	None.
Crescent City & Smith River Railroad Co. ....	2,756	†	10,915	†	†	†	†
Pajaro Valley Railroad Co. ....	†	†	†	†	†	†	†
California Railway .....	†	†	†	†	†	†	†
Alameda & San Joaquin Railroad Co. ....	None.	None.	None.	None.	None.	None.	None.
Santa Ana & Newport Railway Co. ....	12,564	.01736	62,520	.04697	†	†	†
Chino Valley Railroad Co. ....	†	†	40,000	†	†	†	†
The Pacific Lumber Co. ....	†	†	†	†	†	†	†
Iron Mountain Railway Co. ....	†	†	†	†	†	†	†
Gualala River Railway Co. ....	†	†	†	†	†	†	†
Totals.....	22,710,198	-----	8,173,671	-----	10,193,464	1,322,924	22,534,335

Not reported. § Reported by Southern Pacific Company, lessee.

TABLE No. 3.

COMMODITY STATEMENT—ENDING JUNE 30, 1896

Companies.	Grain.		Flour.		Hay.		Fruits and Vegetables.		Live Stock.		Hides and Leather.	
	Tons.	%	Tons.	%	Tons.	%	Tons.	%	Tons.	%	Tons.	%
Southern Pacific Co. (Pacific System).....	794,862	11.95	105,892	1.59	187,999	2.83	420,306	6.32	298,149	4.48	21,323	0.32
Central Pacific Railroad Co. ....												
Southern Pacific Railroad Co. of California.....												
California Pacific Railroad Co. ....												
Northern Railway Co. ....												
South Pacific Coast Railway Co. ....												
Northern California Railway Co. ....	50,214	8.81	7,500	1.32	9,825	1.72	91,007	16.49	7,426	1.30	472	0.08
Southern California Railway Co. ....	2,606	0.83	2,662	0.84	2,289	0.73	73,142	23.19	6,095	1.93	309	0.10
Atlantic & Pacific Railroad Co. ....	8,599	5.59	2,658	1.73	3,915	2.55	8,429	5.48	5,235	3.40	458	0.29
San Francisco & North Pacific Railroad Co. ....	553	3.12	234	1.32	673	3.80	1,359	7.79	1,787	10.08	None.	
Carson & Colorado Railroad Co. ....	301	0.40	25	0.03	576	0.77	2,714	3.63	2,248	3.01	None.	
North Pacific Coast Railroad Co. ....	10,264	21.71	593	1.25	100	0.21	1,319	2.80	1,361	2.88	143	0.30
Pacific Coast Railway Co. ....												
Los Angeles & Pacific Railway Co. ....	630	3.83	130	0.79	11	0.07	776	4.72	7,377	44.81	31	0.19
Nevada-California-Oregon Railroad Co. ....	780				896		1,350		33			
Eel River & Eureka Railroad Co. ....	5,119	19.34			1,633	6.17	521	1.97	99	0.38	162	0.61
Nevada County Narrow Gauge .....	Not reported.											
National City & Otay Railway Co. ....	5,000											
Colusa & Lake Railroad Co. ....	690	10.66	528	8.00			259	4.00			112	1.66
Arcata & Mad River Railroad Co. ....	309		87		180				1,560		20	
Visalia Railroad Co. ....												
Yreka Railroad Co. ....												
Visalia & Tulare Railroad Co. ....	286	1.91	290	1.99	1,817	12.46	2,559	17.55	3	0.02		
San Diego, Cuyamaca & Eastern Railway Co. ....												
Los Angeles & Redondo Railway Co. ....	1,275	2.75	280	0.60	739	1.59	3,993	8.63	111	0.24	5	0.01
Los Angeles Terminal Railway Co. ....	204	10.45	13	0.66	568	29.09	72	3.69	8	0.41		
San Diego, Pacific Beach & La Jolla Ry. Co. ....	Not in operation.											
San Francisco & San Joaquin Valley Ry. Co. ....												
Totals.....	881,692	101.35	120,892	20.12	210,221	61.99	610,786	106.26	331,492	72.94	23,035	3.56

§ Reported by Southern Pacific Company, lessee.

TABLE No. 3—Continued.

Companies.	Wool.		Coal.		Products of Forest.		Wine.		Petroleum and Other Oils.		Merchandise.		Total Freight.
	Tons.	%	Tons.	%	Tons.	%	Tons.	%	Tons.	%	Tons.	%	
Southern Pacific Co. (Pacific System).....	23,421	0.35	225,081	3.38	673,246	10.11	175,493	2.64	121,706	1.83	969,096	14.57	Tonnage. 6,653,336
Central Pacific Railroad Co. ....													
Southern Pacific Railroad Co. of Cal. ....													
Northern Railway Co. ....													
South Pacific Coast Railway Co. ....													
Northern California Railway Co. ....	1,276	0.22	60,747	10.66	106,688	18.72	6,412	1.13	23,419	4.11	48,162	8.10	569,972
Southern California Railway Co. ....	1,144	0.36	49,874	15.81	15,901	5.04	8,174	2.59	14,462	4.58	46,598	14.77	315,473
Atlantic & Pacific Railroad Co. ....	567	0.37	None.	None.	38,460	25.02	26,648	17.34	1,392	0.91	4,546	2.96	153,745
San Francisco & North Pacific R. R. Co. ....	211	1.18	42	0.23	1,768	9.97	None.	None.	None.	None.	3,883	21.90	17,725
Carson & Colorado Railroad Co. ....	None.		None.		35,391	47.36	192	0.26	None.		None.		74,798
North Pacific Coast Railroad Co. ....	106	0.21	516	1.09	7,698	16.09	None.		None.		11,554	24.44	47,280
Pacific Coast Railway Co. ....													
Los Angeles & Pacific Railway Co. ....	402	2.44	14	0.09	3,272	19.87	228	1.39	146	0.89	1,151	6.99	16,464
Nevada-California-Oregon R. R. Co. ....	207				54,643						5,143		71,843
Del River & Eureka Railroad Co. ....			360	1.36	5,070	19.17			760	2.87	8,693	32.85	26,464
Nevada County Narrow Gauge													
National City & Otay Railway Co. ....	Not reported.												
Colusa & Lake Railroad Co. ....													
Arcata & Mad River Railroad Co. ....	56	0.83							107	1.66	4,546	70.25	6,475
Visalia Railroad Co. ....			98		316		267		81		3,720		8,756
Yreka Railroad Co. ....													3,690
Visalia & Tulare Railroad Co. ....													944
San Diego, Cuyamaca & Eastern Ry. Co. ....			85	0.58	3,587	24.59	186	1.28	141	0.97	1,642	11.26	14,587
Los Angeles & Redondo Railway Co. ....					12,979	57.70					9,513	43.30	22,492
Los Angeles Terminal Railway Co. ....	67	0.15	2,573	5.56	28,974	62.58	97	0.21	375	0.81	2,324	5.02	46,304
San Diego, Pac. Beach & La Jolla Ry. Co. ....			41	2.10	386	19.62	1	0.05	25	1.21	71	3.63	1,952
S. F. & San Joaquin Valley Ry. Co. ....	Not in operation.												
Totals	27,457	6.11	339,431		988,289		217,698		162,614		1,118,642		8,052,200

§ Reported by Southern Pacific Company, lessee.





TABLE No. 5.

STATEMENT OF WAGES AND NUMBER OF EMPLOYÉS—ENDING JUNE 30, 1896.

Companies.	General Officers.	General Office Clerks.	Station Agents.	Engineers.	Firemen.	Conductors.	Brakemen and Other Trainmen.	Machinists.
Southern Pacific Co. (Pacific System).....	66	541	543	676	721	378	854	382
Central Pacific Railroad Co. ....	§	§	§	§	§	§	§	§
Southern Pacific Railroad Co. of California	§	§	§	§	§	§	§	§
California Pacific Railroad Co. ....	§	§	§	§	§	§	§	§
Northern Railway Co. ....	§	§	§	§	§	§	§	§
South Pacific Coast Railway Co. ....	§	§	§	§	§	§	§	§
Northern California Railway Co. ....	§	§	§	§	§	§	§	§
Southern California Railway Co. ....	8	73	103	46	50	33	79	73
Atlantic & Pacific Railroad Co. ....	5	39	5	34	36	22	44	17
San Francisco & North Pacific Railroad Co. ....	4	17	47	12	12	11	14	20
Carson & Colorado Railroad Co.†								
North Pacific Coast Railroad Co.†	5	3	38	12	13	10	15	2
Pacific Coast Railway Co. ....	4	5	15	2	2	2	5	1
Yreka Railroad Co. ....			5	1	1			
Newman-California-Oregon Railroad Co. ....	2	2	5	2	2	2		
Fel River & Eureka Railroad Co. ....	3	1	11	2	2	2	6	1
Nevada & Sutro Narrows Railroad Co. ....	4	1	10	2	2	2	6	1
National City & Otay Railway Co.†								
Colusa & Lake Railroad Co. ....	4							
Visalia & Mad River Railroad Co. ....	5	3	4	2	1	1	1	
Visalia Railroad Co. ....	3	0	2	3	3	1		
Visalia & Tulare Railroad Co. ....	0	0	1	1	0	1	1	0
Los Angeles & Redondo Railway Co. ....	4	2	0	1	1	1	0	0
San Diego, Chynamaca & Eastern Railway Co. ....	4	2	8	3	3	2	2	0
Los Angeles Terminal Railway Co. ....	4	1	8	2	2	2	3	0
San Diego, Pacific Beach & La Jolla Railway Co. ....	4	4	13	8	8	4	5	3
San Francisco & San Joaquin Valley Railway Co.†	4	1	0	0	1	1	0	0
Crescent City & Smith River Railway Co.†								
Pajaro Valley Railway Co.†								
California Railway Co. ....	2	2	8	1	1	1	1	0
Alameda & San Joaquin Valley Railway Co.†								
Santa Ana & Newport Railway Co. ....	2	2	3	3	2	1	1	2
Chino Valley Railway Co. ....	5	0	0	3	0	0	2	0
Pacific Lumber Co.†								
Iron Mountain Railway Co.†								
Gualala River Railway Co.†								
Totals .....	138	688	827	816	861	477	1,040	505

§ Reported by Southern Pacific Company, lessee. † Not reported.

TABLE No. 5—Continued.

Companies.	Carpenters.	Shopmen, Section Foremen, Trackmen, Switchmen, Flagmen, Watchmen.	Telegraph Operators.	Laborers.	Total Yearly Compensa- tion of Employees.	Number of Employees.	Daily Aver- age Com- pensation.
Southern Pacific Co. (Pacific System).....	748	8,351	240	1,091	\$12,882,261 81	16,184	\$2 54
Central Pacific Railroad Co. ....							
Southern Pacific Railroad Co. of California							
California Pacific Railroad Co. ....							
Northern Railway Co. ....							
Southern Pacific Coast Railway Co. ....							
Northern California Railway Co. ....	97	363	1	116	1,030,019 00	1,284	2 33
Southern California Railway Co. ....	27	233	12	138	567,449 65	693	2 21
Atlantic & Pacific Railroad Co. ....	63	112	1	48	293,876 20	381	2 31
San Francisco & North Pacific Railroad Co.							
Carson & Colorado Railroad Co.†							
North Pacific Coast Railway Co. ....	28	99	1	33	144,509 45	259	2 02
Pacific Coast Railway Co. ....	19	43	2	11	54,118 36	111	1 96
Yreka Railroad Co. ....		1			3,720 30	6	2 00
Nevada-California-Oregon Railroad Co.		14			26,453 95	34	2 37
Eel River & Eureka Railroad Co. ....	2	16		2	34,031 07	50	2 30
Nevada County Narrow Gauge Railroad Co.	6	30		1	46,825 24	63	2 47
National City & Otay Railway Co.†							
Colusa & Lake Railroad Co. ....							
Arcata & Mad River Railroad Co. ....	2	15	4	10	8,990 00	22	1 45
Visalia Railroad Co. ....	0	5	0	4	45,961 75	43	3 00
Visalia & Tuare Railroad Co. ....	0	1	0	2	7,318 00	14	3 00
Los Angeles & Redondo Railway Co. ....	0	16	0	0	3,959 20	4	2 14
San Diego, Curamaca & Eastern Railway Co.	5	9	0	4	32,657 52	51	2 31
Los Angeles Terminal Railway Co. ....	2	20	0	53	17,610 31	86	1 97
San Diego, Pacific Beach & La Jolla Railway Co.	7	4	1	0	64,321 38	75	2 43
San Francisco & San Joaquin Valley Railway Co.†	0		0	0	9,012 90	12	2 12
Crescent City & Smith River Railway Co.†							
Pajaro Valley Railway Co. ....							
California Railway Co. ....		0	0	0	7,748 36	16	2 50
Alameda & San Joaquin Railway Co.†							
Alameda & Newport Railway Co. ....	8	23	0	0	23,329 24	47	2 35
Chino Valley Railway Co. ....	0	0	0	0	2,500 00	17	2 50
Pacific Lumber Co.†							
Iron Mountain Railway Co.†							
Gualala River Railway Co.†							
Totals.....	1,015	9,855	272	1,519	\$15,236,163 69	19,432	*\$2 14+

† Reported by Southern Pacific Company, lessee. † Not reported. \*\$2 14+ average daily compensation employees in State.

TABLE No. 6.  
STATEMENT OF EQUIPMENT—ENDING JUNE 30, 1896.

Companies.	No. of Locomotives Operated.	No. of Passenger Cars Operated.	No. of Freight Cars Operated.	No. of Flat Freight Cars Operated.	No. of Work Cars, Etc., Operated in Company's Service.	Total No. of Cars In Service.
Southern Pacific Co. (Pacific System)	729	964	9,406	4,019	628	16,241
Central Pacific Railroad Co.	§	§	§	§	§	§
Southern Pacific Railroad Co. of California	§	§	§	§	§	§
California Pacific Railroad Co.	§	§	§	§	§	§
Northern Railway Co.	§	§	§	§	§	§
South Pacific Coast Railway Co.	§	§	§	§	§	§
Northern California Railway Co.	25	18	38	37	54	232
Southern California Railway Co.	117	34	130	437	2100	2,100
Atlantic & Pacific Railroad Co.	17	54	134	265	1,131	555
San Francisco & North Pacific Railroad Co.	8	8	54	94	22	198
Carson & Colorado Railroad Co.	12	50	43	284	11	391
North Pacific Coast Railway Co.	6	10	23	154	22	222
Pacific Coast Railway Co.	1	1	1	2	2	7
Yreka Railroad Co.	4	7	11	6	20	69
Nevada-California-Oregon Railroad Co.	3	9	10	28	100	147
Eel River & Eureka Railroad Co.	3	5	21	28	4	58
Nevada County Narrow Gauge	6	10	4	31	0	45
National City & Olay Railway Co.	3	5	4	20	22	29
Colusa & Lake Railroad Co.	4	4	4	160	5	190
Arcata & Mad River Railroad Co.	3	2	3	33	6	5
Visalia Railroad Co.	2	22	16	83	77	77
Visalia & Tulare Railroad Co.	6	5	8	23	3	39
Los Angeles & Redondo Railway Co.	2	20	34	74	38	171
San Diego, Cuyamaca & Eastern Railway Co.	8	8	1	4	13	13
Los Angeles Terminal Railway Co.	2	None.	50	250	3	303
San Diego, Pacific Beach & La Jolla Railway Co.	3	1	16	None.	73	77
San Francisco & San Joaquin Valley Railway Co.	3	1	2	19	126	162
Crescent City & Smith River Railroad Co.	3	1	16	16	26	20
Pajaro Valley Railroad Co.	2	4	2	40	6	66
California Railway	1	5	2	10	7	23
Alameda & San Joaquin Railroad Co.	3	3	5	6	32	10
Santa Ana & Newport Railway Co.	2	1	5	7	70	82
Chino Valley Railroad Co.	2	1	5	6	32	32
The Pacific Lumber Co.	1					
Iron Mountain Railway Co.	1					
Gualala River Railway Co.	4					
Totals	983	1,244	10,037	6,107	2,389	21,629

‡ Not reported. § Reported by Southern Pacific Company, lessee.

TABLE No. 7.

## INCREASE AND DECREASE OF EARNINGS.

Companies.	Net Earnings from Operation Ending June 30, 1896.	Net Earnings from Operation Ending June 30, 1895.	Net Earnings from Operation Ending June 30, 1894.
Southern Pacific Co. (Pacific System) ...	†\$11,269,811 82	†\$10,307,645 31	†\$12,675,861 64
Central Pacific Co. ....	§	§	§
Southern Pacific R. R. Co. of California..	§	§	§
California Pacific Railroad Co. ....	§	§	§
Northern Railway Co. ....	§	§	§
South Pacific Coast Railway Co. ....	§	§	§
Northern California Railroad Co. ....	§	§	§
Southern California Railway Co. ....	282,153 65	303,338 82	430,587 89
Atlantic & Pacific Railroad Co. ....	13,371 94	19,694 54	25,735 55
San Francisco & North Pacific R. R. Co..	207,079 70	315,551 95	296,034 03
Carson & Colorado Railroad Co. ....	41,717 14	46,784 34	49,992 19
North Pacific Coast Railroad Co. ....	86,291 08	92,405 93	92,188 60
Pacific Coast Railway Co. ....	32,372 34	32,760 50	†
Nevada-California-Oregon R. R. Co. ....	17,414 31	18,551 04	18,824 98
Eel River & Eureka Railroad Co. ....	50,290 08	40,208 81	25,956 24
Nevada County Narrow Gauge .....	32,373 48	25,699 54	32,733 20
National City & Otay Railway Co. ....	2,256 61	*13,012 42	*1,559 59
Colusa & Lake Railroad Co. ....	1,003 71	6,130 63	6,485 41
Arcata & Mad River Railroad Co. ....	*534 08	*11,156 34	2,857 95
Visalia Railroad Co. ....	4,048 37	6,096 73	7,503 69
Yreka Railroad Co. ....	5,897 09	5,695 56	4,397 37
Visalia & Tulare Railroad Co. ....	2,090 92	2,836 97	953 83
Los Angeles & Redondo Railway Co. ....	12,948 31	*16,713 58	9,781 71
San Diego, Cuyamaca & Eastern Ry. Co..	11,509 90	7,224 23	14,598 91
Los Angeles Terminal Railway Co. ....	9,364 94	37,859 23	21,845 11
San Diego, Pac. Beach & La Jolla Ry. Co.	*3,724 00	9,921 91	†
Crescent City & Smith River R. R. Co. ..	9,012 81	8,791 73	†
Pajaro Valley Railroad Co. ....	18,434 79	37,678 21	†
California Railway .....	*4,141 55	†	†
Santa Ana & Newport Railway Co. ....	24,779 59	†	†
Pacific Lumber Co. ....	3,055 25	*1,107 25	-----

\* Deficit. † Not reported. § Reported by Southern Pacific Company, lessee.

† Operating expenses do not include rentals, taxes, and interest.

TABLE No. 8.

## ACCIDENTS TO PERSONS.

	Killed.	Injured.
Passengers .....	107	212
Employés .....	25	155
Totals .....	132	367



## LIST OF RAILROAD COMPANIES

THAT HAVE FILED ARTICLES OF INCORPORATION IN THE OFFICE OF SECRETARY OF STATE, FROM OCTOBER 19, 1894, TO SEPTEMBER 26, 1896.

Los Angeles, San Francisco & Salt Lake Railway Company. Filed October 19, 1894.

## DIRECTORS.

John M. C. Marble .....	Los Angeles, Cal.
Jefferson Chandler .....	Los Angeles, Cal.
Arthur Young .....	Chicago, Ill.
C. N. Stuart .....	Chicago, Ill.
Shirley C. Ward .....	Los Angeles, Cal.
C. W. Rogers .....	Los Angeles, Cal.
T. B. Burnett .....	Los Angeles, Cal.

Amador Railroad Company. Filed November 22, 1894.

## DIRECTORS.

Stephen H. Emmens .....	Amador City, Cal.
Newton W. Emmens .....	Amador City, Cal.
L. C. Haskin .....	Amador City, Cal.
W. F. Keeney .....	Amador City, Cal.
O. E. Martin .....	Amador City, Cal.

San Francisco & Los Angeles Railway Company. Filed December 21, 1894.

## DIRECTORS.

Frederick Homer .....	Berkeley, Cal.
William H. Martin .....	San Francisco, Cal.
W. H. C. Fowler .....	San Francisco, Cal.
A. Judson .....	San Francisco, Cal.
W. J. Behan .....	San Francisco, Cal.

San Diego, Pacific & Eastern Railway Company. Filed January 2, 1895.

## DIRECTORS.

H. L. Storey .....	San Diego, Cal.
E. V. Van Norman .....	San Diego, Cal.
Chas. L. Heartt .....	Los Angeles, Cal.
Geo. S. McCulloch .....	Los Angeles, Cal.
Joseph S. Bachman .....	San Diego, Cal.
John W. Cook .....	San Diego, Cal.
J. Roy Stearns .....	Tia Juana, Cal.
Geo. A. d'Homecourt .....	San Diego, Cal.
J. M. Dodge .....	San Diego, Cal.

Sierra Valley Railway Company. Filed January 5, 1895.

## DIRECTORS.

John M. Pratt .....	San Francisco, Cal.
James Elder .....	San Francisco, Cal.
John Flittie .....	San Francisco, Cal.
Fletcher F. Ryer .....	San Francisco, Cal.
William S. Kittle .....	San Francisco, Cal.

## Santa Clara Valley Railroad Company. Filed February 9, 1895.

## DIRECTORS.

Francis Smith .....	Santa Clara County, Cal.
Lewis A. Sage .....	Santa Clara County, Cal.
W. P. Henley .....	Santa Clara County, Cal.
H. R. Sterne .....	Santa Clara County, Cal.
W. O. Watson .....	Santa Clara County, Cal.

## San Francisco &amp; San Joaquin Valley Railroad Company. Filed February 26, 1895.

## DIRECTORS.

Claus Spreckels .....	San Francisco, Cal.
J. D. Spreckels .....	San Francisco, Cal.
W. F. Whittier .....	San Francisco, Cal.
J. B. Stetson .....	San Francisco, Cal.
Robert Watt .....	San Francisco, Cal.
A. H. Payson .....	San Mateo, Cal.
Chas. Holbrook .....	San Francisco, Cal.
Lewis Gerstle .....	San Francisco, Cal.
Alvinza Hayward .....	San Mateo, Cal.
Isaac Upham .....	San Francisco, Cal.
Thomas Magee .....	San Francisco, Cal.

## Santa Clara Valley Railway &amp; Navigation Company. Filed March 6, 1895.

## DIRECTORS.

Geo. F. Smith .....	Santa Clara County, Cal.
Lewis A. Sage .....	Santa Clara County, Cal.
W. P. Henley .....	Santa Clara County, Cal.
W. O. Watson .....	Santa Clara County, Cal.
V. Koch .....	Santa Clara County, Cal.

## Moraga Valley Railroad Company. Filed March 21, 1895.

## DIRECTORS.

Angus A. Grant .....	Albuquerque, New Mexico.
Archibald J. McDonald .....	San Francisco, Cal.
John T. Williams .....	Oakland, Cal.
John R. Grant .....	Los Angeles, Cal.
John A. Burton .....	San Francisco, Cal.

## Piedmont &amp; Mountain View Railway Company. Filed March 25, 1895.

## DIRECTORS.

Charles R. Bishop .....	San Francisco, Cal.
Ernest A. Heron .....	Oakland, Cal.
Samuel C. Bigelow .....	San Francisco, Cal.
John R. Spring .....	San Francisco, Cal.
Homer S. King .....	San Francisco, Cal.

## Los Angeles &amp; Santa Monica Railroad Company. Filed April 4, 1895.

## DIRECTORS.

C. B. Van Every .....	Los Angeles, Cal.
V. A. Raleigh .....	Los Angeles, Cal.
J. J. O'Brien .....	Los Angeles, Cal.
A. W. Eames .....	Los Angeles, Cal.
James P. Montgomery .....	Los Angeles, Cal.

## Alameda &amp; San Joaquin Railroad Company. Filed June 25, 1895.

## DIRECTORS.

John Treadwell .....	Oakland, Cal.
Robert D. Fry .....	San Francisco, Cal.
E. B. Pond .....	San Francisco, Cal.
J. Dalzell Brown .....	San Francisco, Cal.
Brodie M. Bradford .....	San Francisco, Cal.

Sacramento, Fair Oaks & Orange Vale Railroad Company. Filed July 12, 1895.

DIRECTORS.	
L. T. Hatfield .....	Sacramento, Cal.
Thomas B. Hall .....	Sacramento, Cal.
Fred. K. Cox .....	Sacramento, Cal.
William Schaw .....	Sacramento, Cal.
George M. Mott .....	Sacramento, Cal.

West Shore Railway Company. Filed July 12, 1895.

DIRECTORS.	
C. M. Sanger .....	San Leandro, Cal.
Behrend Joost .....	San Francisco, Cal.
R. S. Thornton .....	Colma, Cal.
John W. Eisenbuth .....	San Francisco, Cal.
Louis F. Dunand .....	San Rafael, Cal.

Iron Mountain Railway Company. Filed July 17, 1895.

DIRECTORS.	
Louis B. Parrott .....	San Francisco, Cal.
Chas. P. Eells .....	San Francisco, Cal.
M. M. O'Shaughnessy .....	San Francisco, Cal.
Alfred Fellows .....	Newcastle-on-Tyne, England.
Charles W. Fielding .....	London, England.

Shore Line Bicycle Railway Company. Filed July 29, 1895.

DIRECTORS.	
J. W. McClung .....	San Francisco, Cal.
George P. Adams .....	Los Angeles, Cal.
Thos. W. Nowlin .....	San Francisco, Cal.
W. A. Kirkwood .....	San Francisco, Cal.
James E. Ball .....	San Francisco, Cal.

Santa Clara Valley Railway Company. Filed August 26, 1895.

DIRECTORS.	
Andrew Rocca .....	Great Western Mine, Cal.
H. W. Goodall .....	San Francisco, Cal.
H. P. Thayer .....	San José, Cal.
Frank Piper .....	San Francisco, Cal.
R. J. R. Aden .....	Vallejo, Cal.
Alfred E. Pryor .....	San Francisco, Cal.
Charles A. Shurtleff .....	San Francisco, Cal.

Humboldt Telephone Company. Filed September 2, 1895.

DIRECTORS.	
H. H. Moller .....	Ferndale, Cal.
Chas. A. Eastman .....	Fortuna, Cal.
G. C. Barber .....	Grizzly Bluff, Cal.
Geo. M. Brice .....	Ferndale, Cal.
Frank W. Luther .....	Alton, Cal.

Fruitvale Railway. Filed October 3, 1895.

DIRECTORS.	
Chas. R. Bishop .....	San Francisco, Cal.
A. H. Clough .....	Oakland, Cal.
W. H. Rank .....	Brooklyn, Cal.
Geo. H. Mastick .....	Alameda, Cal.
T. F. Scanlan .....	Oakland, Cal.

## Mount Lowe Railway Company. Filed October 30, 1895.

## DIRECTORS.

Thad. S. C. Lowe .....	Pasadena, Cal.
Leon P. Lowe .....	Pasadena, Cal.
Thaddeus Lowe .....	Altadena, Cal.
Herbert C. Brown .....	Pasadena, Cal.
Sobieski Lowe .....	Pasadena, Cal.

## Pasadena &amp; Altadena Railway Company. Filed October 30, 1895.

## DIRECTORS.

Thad. S. C. Lowe .....	Pasadena, Cal.
Leon P. Lowe .....	Pasadena, Cal.
Thad. Lowe .....	Pasadena, Cal.
Herbert C. Brown .....	Pasadena, Cal.
L. A. Lowe .....	Pasadena, Cal.

## Elsinore, Pomona &amp; Los Angeles Railway Company. Filed December 6, 1895.

## DIRECTORS.

W. G. Holterhoff, Jr .....	Los Angeles, Cal.
H. C. Whitehead .....	Los Angeles, Cal.
James Hill .....	Elsinore, Cal.
N. C. Hudson .....	South Riverside, Cal.
K. H. Wade .....	Los Angeles, Cal.

## The Clear Lake Power Company. Filed January 2, 1896.

## DIRECTORS.

Ferdinand Formhals .....	San Francisco, Cal.
J. H. Culver .....	San Francisco, Cal.
Wm. C. McGeorge .....	San Francisco, Cal.
George T. Ruddock .....	San Francisco, Cal.
E. O. Blethen .....	San Francisco, Cal.

## The Eureka &amp; Klamath River Railroad Company. Filed January 6, 1896.

## DIRECTORS.

E. H. Vance .....	Eureka, Cal.
S. A. Vance .....	Eureka, Cal.
Elizabeth Vance .....	Eureka, Cal.
Effie S. Vance .....	Eureka, Cal.
H. W. Wandesforde .....	Eureka, Cal.

## Mill Valley &amp; Mount Tamalpais Scenic Railway. Filed January 16, 1896.

## DIRECTORS.

Wm. C. B. de Fremery .....	Oakland, Cal.
Cornelius Toohey .....	Marin County, Cal.
Arthur A. Martin .....	San Francisco, Cal.
Wm. C. Savage .....	Marin County, Cal.
Charles E. Green .....	San Francisco, Cal.
David McKay .....	San Francisco, Cal.
Sidney B. Cushing .....	San Rafael, Cal.

## Southern California &amp; Salt Lake Railroad Company. Filed January 24, 1896.

## DIRECTORS.

Wm. H. Carlson .....	San Diego, Cal.
J. K. Clark .....	Butte City, Mont.
J. M. Metcalf .....	Omaha, Neb.
A. B. Hotchkiss .....	Los Angeles, Cal.
D. C. Reed .....	San Diego, Cal.



Oakland & Livermore Valley Railway Company. Filed February 26, 1896.

DIRECTORS.

E. P. Vandercook.....	Oakland, Cal.
George D. Metcalf.....	Berkeley, Cal.
A. D. Wilson.....	Brooklyn, Cal.
H. H. Pitcher.....	Livermore, Cal.
Rod W. Church.....	Oakland, Cal.

The Yosemite Valley & Merced Railway Company. Filed March 9, 1896.

DIRECTORS.

James B. Stetson.....	San Francisco, Cal.
John D. Spreckels.....	San Francisco, Cal.
O. D. Baldwin.....	San Francisco, Cal.
Robert Oxnard.....	San Francisco, Cal.
James Cross.....	San Francisco, Cal.
A. L. Stetson.....	San Francisco, Cal.
G. A. Wulkop.....	San Francisco, Cal.

Sacramento Electric, Gas, and Railway Company. Filed April 4, 1896.

DIRECTORS.

J. W. Hall.....	Sacramento, Cal.
L. T. Hatfield.....	Sacramento, Cal.
Albert Gallatin, Jr.....	San Francisco, Cal.
L. P. Drexler.....	San Francisco, Cal.
Charles R. Lloyd.....	Oakland, Cal.

McCloud Valley Railroad Company. Filed April 8, 1896.

DIRECTORS.

James Palmer.....	New York, N. Y.
Samuel Leavitt.....	Boston, Mass.
John A. Davis.....	Castle Crag, Cal.
David E. Miles.....	Castle Crag, Cal.
Wm. J. Branstetter.....	Dunsmuir, Cal.

Citizens' Traction Company. Filed April 16, 1896.

DIRECTORS.

G. B. Kerper.....	Cincinnati, Ohio.
C. W. Foote.....	San Diego, Cal.
G. C. Arnold.....	San Diego, Cal.
J. E. O'Brien.....	San Diego, Cal.
J. B. Mannix.....	San Diego, Cal.

San Jacinto, Lake View & Northern Railway Company. Filed May 11, 1896.

DIRECTORS.

K. H. Wade.....	Los Angeles, Cal.
F. B. Henderson.....	Los Angeles, Cal.
Wm. J. Hunsaker.....	Los Angeles, Cal.
G. A. Davidson, Jr.....	Los Angeles, Cal.
John J. Byrne.....	Los Angeles, Cal.

San Francisco & San Mateo Electric Railway Company. Filed May 19, 1896.

DIRECTORS.

John D. Spreckels.....	San Francisco, Cal.
Adolph B. Spreckels.....	San Francisco, Cal.
Nicholas Ohlandt.....	San Francisco, Cal.
John A. Buck.....	San Francisco, Cal.
Walter D. K. Gibson.....	Fruitvale, Cal.

## Sierra Pacific Railway Co. Filed September 3, 1896.

## DIRECTORS.

B. F. Langford	San Joaquin County, Cal.
P. A. Buell	Stockton, Cal.
W. A. Shippee	Avon, Cal.
B. W. Moore	Stockton, Cal.
George A. Brown, Jr.	Stockton, Cal.
D. A. Robertson	Stockton, Cal.
M. J. Gardner	Stockton, Cal.

## Bear Harbor &amp; Eel River Railroad Company. Filed September 8, 1896.

## DIRECTORS.

James Hunter	Vallejo, Cal.
Thomas Pollard	San Francisco, Cal.
E. J. Dodge	Alameda, Cal.
Calvin Stewart	Fort Bragg, Cal.
A. B. Cooper	Fort Bragg, Cal.

## Ventura &amp; Ojai Valley Railroad Company. Filed September 25, 1896.

## DIRECTORS.

A. P. Cross	Los Angeles, Cal.
John Cross	Los Angeles, Cal.
S. R. Thorpe	Los Angeles, Cal.
J. E. Loomis	Los Angeles, Cal.
N. P. Conrey	Los Angeles, Cal.
S. H. Garrett	Los Angeles, Cal.
L. L. Cross	Los Angeles, Cal.

## COMMUNICATIONS, COMPLAINTS, AND CORRESPONDENCE.

On April 10, 1895, the following communication was received from M. M. Moulton:

FALLBROOK, April 3, 1895.

*State Board of Railroad Commissioners, Sacramento, Cal.:*

GENTLEMEN: I have been requested by the citizens of Fallbrook to make inquiries of you regarding the washed-out line of road between Temecula and Oceanside, San Diego County.

I will not recite the facts in the case, as you are doubtless as well acquainted with them as myself. We have been informed by more or less competent authorities that the Santa Fe was obliged, by the terms of its charter, to rebuild and operate the road within five years from the time it suspended traffic. We have been unable to have this statement confirmed by any one thoroughly versed in railroad matters. Can you give us any light on this subject? We need a railroad at this point; it would pay the company handsomely from the first day. Any information you might desire will be gladly furnished by myself or any other business man here.

If you can tell us anything about the law in the case or anything about the Santa Fe's intention regarding us, it will be greatly appreciated.

Yours respectfully,

MONTGOMERY M. MOULTON.

Following is the reply of K. H. Wade to M. M. Moulton's communication:

LOS ANGELES, April 15, 1895.

MR. SAMUEL NEWMAN, *Secretary State Board of Railroad Commissioners, Sacramento, care of Hotel Hollenbeck, Los Angeles.*

DEAR SIR: Referring to complaint from Mr. Montgomery M. Moulton, in regard to repairing and putting into operation the old line of road between Temecula and Oceanside, I beg to state, that since the road was originally built, some twelve years ago, the line has been badly damaged by storms on three different occasions, the first time in 1884. It was about twelve months before the company could secure the necessary money to restore the line and put it in operation. Since I took charge of the property, in November, 1889, and during that winter, we had very heavy rains and the line was very seriously interrupted, but was repaired and operated during the following year. In the winter of 1890 and 1891 it was washed out again very badly, and our engineers estimated it would require over \$100,000 expenditure to put it into repair again. Our people have not since that time felt able to appropriate so large a sum, even if it were good business policy to restore that line. The road for the most of the way passes through a mountain gorge where it is not possible to develop any amount of business, and during the last year the road was operated less than \$6,000 was earned on business secured or originating on the line between Temecula and Oceanside. Since San Diego County was divided, and the territory north of Temecula has been transferred to Riverside County, there has been but comparatively little exchange of business between these two localities, and never will be, in all probability, as great an exchange as when San Diego was the county seat. Business to and from Temecula and the upper country is carried around by East Riverside and Orange at the same rate which prevailed previous to the interruption of the line through Temecula Cañon, so, except as to the question of time, the people have the same service as before. The distance from Perris, which is about the central point of the territory affected, via East Riverside and Orange, to San Diego, is 159 miles. By the old road, when in operation, the distance from Perris to San Diego was 101 miles, making the route via Orange 58 miles longer.

Trusting this explanation will be satisfactory to your honorable body, I am

Yours very truly,

(Signed:) K. H. WADE,  
General Manager.

The following communication was received from M. M. Moulton:

FALLBROOK, CAL., April 30, 1895.

SAMUEL NEWMAN, *Secretary Board of Railroad Commissioners, San Francisco, Cal.:*

DEAR SIR: Yours of April 25th received with inclosures. Many thanks for your efforts and for information furnished. A Board of Trade is being organized in Fallbrook, to whom I will refer all my correspondence with your honorable body. We have reason to believe that a proposition of some character will shortly be made to us by the Santa Fe, and the matter amicably settled. Again thanking you for your valuable services, I have the honor to be,

Your obedient servant,

MONTGOMERY M. MOULTON.

The following communication was received from San Diego Property-Owners' Union:

OFFICE OF THE SAN DIEGO PROPERTY-OWNERS' UNION, }  
SAN DIEGO, CAL., August 28, 1895. }

*To the Honorable Board of Railroad Commissioners of the State of California:*

GENTLEMEN: Under the management of the late Thomas Nickerson, President of the California Southern Railway Company, the City of San Diego entered into an agreement to build a railroad from San Diego to Barstow, via Temecula, being the shorter line. In consideration of the building of said road, the City of San Diego and National City granted the said California Southern Railway Company a subsidy, valued at the time and since at \$6,000,000. The railroad company built the road and for a time operated in good faith, for five years causing a rapid settlement along the line. In the meantime, San Diego built up a large and profitable trade.

In February, 1891, a portion of the road in Temecula Cañon was damaged by the flood so that it required some \$30,000 to repair it. For four years the people of San Diego have been deprived of this trade, and the settlers along the line have suffered; and we have used every means possible to restore the travel on this line, but every argument has failed.

At present the travel of San Diego is forced over the surf-line, 100 miles out of its way, to go through Los Angeles.

Within the last two months the people of Fallbrook have forced the Santa Fe to repair the road up to their stations, 20 miles, which is the main portion of the work. There is now only a gap of six miles left to give through travel, which the Santa Fe refuses to repair.

Therefore, we respectfully request that your honorable body will furnish us with a copy of the laws relating to the forfeiture of railroad charters, and that you will take such other action as you may deem proper to aid us in securing our legal and just rights from the Santa Fe Railroad Company.

Very respectfully,

D. CHOATE,  
President.  
G. G. ARNOLD,  
Secretary.

Following is the reply of K. H. Wade to San Diego Property-Owners' Union:

LOS ANGELES, September 2, 1895.

MR. SAMUEL NEWMAN, *Secretary State Board Railroad Commissioners, Chronicle Building San Francisco:*

DEAR SIR: Acknowledging your favor of the 31st ult., with copy of letter from the San Diego Property-Owners' Union, beg to state that the conditions existing in regard to this line, as explained in my letter of April 15th (copy of which is herewith inclosed), still prevail, and the explanations contained therein apply with equal force to the situation to-day. Since that date, by conference with the Fallbrook people, we received from them material aid in restoring the washed-out line from Oceanside to Fallbrook, at an expense of between \$7,000 and \$8,000. The local business in sight was such as to justify this expenditure. This work has been completed, and the line is now in operation to and from Fallbrook. Upon the line between Fallbrook and Temecula, however, is where the greater part of the expense is necessary to restore the washed-out line, and our estimate is that it would require upwards of \$90,000 to put this line in shape where we could expect it to be maintained against the first high water. There is no business at present, or any in prospect, to justify such an expense, and no locality or commercial interests which are suffering in consequence of such line not being rebuilt. The rates of freight, and facilities for handling business, to and from San Diego, have been kept uniform, as they were before the line was interrupted. The large growth and develop



ment of Los Angeles, Riverside, San Bernardino, and Redlands has attracted a large portion of the trade which formerly went to San Diego, for which the railway company is in no way responsible.

Yours truly,

(Signed:) K. H. WADE,  
General Manager.

As a result of the foregoing communications, the following action was taken by this Board: On October 9, 1895, the Secretary was instructed to publish notice of meeting to be held at San Diego, on October 28, 1895. Arrangements were made for the Board to convene at that city, but on account of the important litigation pending in the United States Circuit Court, requiring the presence of the members of the Board in San Francisco, the matter was continued.

On July 8, 1896, the Secretary was directed to publish notice of a meeting to be held at San Diego, and to notify all persons interested in the matter pending against the Southern California Railway Company, to appear before the Board at that time. On August 1, 1896, at 1 o'clock P. M., the Board convened at the rooms of the Chamber of Commerce, in San Diego, at which time Gilbert G. Arnold filed the following complaint:

Before the Board of Railroad Commissioners of the State of California.

*In the matter of Enforcing the Operation of Certain Portions of the Southern California Railway.*

Gilbert G. Arnold complains and alleges:

1. That he is a citizen of the State of California, residing in the City of San Diego, State of California;

2. That the Southern California Railway Company is a corporation organized and acting under the laws of the State of California, and the owner of all the railroad property hereinafter mentioned;

3. That the California Southern Railroad Company was a corporation organized and acting under the laws of the State of California during the years 1881 to 1894, inclusive;

4. That the last mentioned corporation incorporated for the purpose and entered upon the construction and operation of a railroad to run from the City of San Diego in a northerly direction to the City of San Bernardino, and was thus incorporated and received its charter therefor. And that it continued the construction of its said road until it was completed, running northerly from the City of San Diego via Oceanside through the Temecula Cañon to the City of San Bernardino, reaching said city on or about the year A. D. 1883;

5. That the citizens of the County of San Diego, in the State of California, for the purpose of having said corporation construct and operate and maintain said railroad along the line aforesaid, gave large subsidies of land and money, which were accepted by the members and stockholders of said corporation, which then entered upon the maintenance and operation of said railroad through the Temecula Cañon;

6. That the said California Southern Railroad Company, since the construction of said road, has been consolidated with others into the Southern California Railway Company, and has leased or assigned all its interest in said railroad property to the said Southern California Railway Company, which is now the owner of the same;

7. That during the last two years, the said Southern California Railway Company has totally failed to operate the said railroad for a distance of five (5) miles through what is known as the Temecula Cañon, and refuses to repair or operate its said railroad for said distance; and has thus disconnected the towns of Fallbrook and Oceanside and the City of San Diego from direct communication with the towns of Murietta, Temecula, Elsinore, Perris, Winchester, and San Jacinto, and their surrounding country;

8. That the failure to operate said road has not been prevented by the act of God; and complainant alleges that the said railway, with its branch and trunk lines, does yield income sufficient to defray the expenses of maintaining and operating the said line through the Temecula Cañon in connection with its said branch or trunk lines.

Wherefore, complainant prays that it be declared the duty of the Southern California Railway Company to operate its said railway through the Temecula Cañon in connection with its other branches and lines, and that suit be instituted against said corporation to compel it to perform its duty in the premises.

(Signed:) GILBERT G. ARNOLD.

STATE OF CALIFORNIA, }  
County of San Diego. } ss.

Gilbert G. Arnold, being duly sworn, says: I am the complainant mentioned in the foregoing complaint; that I have read the said complaint, and know the contents thereof; and that the same is true of my own knowledge, except as to the matters which are therein stated upon information and belief, and as to those matters I believe it to be true.

(Signed :) GILBERT G. ARNOLD.

Subscribed and sworn to before me, this 31st day of July, 1896.

C. STANTON,  
Notary Public.

The following answer was filed on behalf of the Southern California Railway Company:

Before the Board of Railroad Commissioners of the State of California.

*In the matter of Enforcing the Operation of Certain Portions of the Southern California Railway.*

THE ANSWER TO THE COMPLAINT OF GILBERT G. ARNOLD, FILED BEFORE THE BOARD OF RAILROAD COMMISSIONERS, AUGUST 1, 1896.

Comes now the Southern California Railway Company, and, for its answer to the complaint of Gilbert G. Arnold, says that:

Protesting and objecting to the jurisdiction of this Honorable Board to hear, try, or determine any of the matters and things set forth in said complaint, and denying the jurisdiction of such Board to hear and determine said matters, says that the branch of the Southern California Railway Company, which was operated through the Temecula Cañon, either by itself or in connection with the main line of the Southern California Railway Company, and the profit yielded to such main line, or to itself, is wholly and utterly insufficient to yield an income sufficient to pay for the operating of said line through the Temecula Cañon together with the cost and expense of maintenance of the same. And, therefore, the said Southern California Railway Company denies that said line, if reestablished and operated, would or could obtain business sufficient, either by itself or in connection with the main line of the Southern California Railway Company, to pay operating expenses, the cost of maintenance, and a fair or reasonable interest on the cost of repairing the same.

Said Railway Company further says that it is impracticable to operate that portion of the line which it has ceased to operate through the Temecula Cañon, on account of the great and enormous expense of reestablishing it, and of maintaining it, and of operating it when maintained; and that, on account of its other lines, covering practically the same points, it would be impracticable, if said line through said cañon were reconstructed, to operate the same as a main line or for through business, owing to the grades, sharp curves, and great liability of breaks in rainy seasons.

It further shows that it would cost practically one hundred thousand dollars (\$100,000) to replace and put in good operating condition the line through Temecula Cañon, and that, for a series of years, say ten (10), it would cost approximately seven hundred and fifty dollars (\$750) per mile, on an average, for maintenance.

Wherefore, the Southern California Railway Company demand that said proceedings be dismissed.

(Signed :) C. N. STERRY,  
Solicitor for Southern California Railway Company

STATE OF CALIFORNIA, }  
County of San Diego. } ss.

K. H. Wade, being duly sworn, says that he is now, and for more than five years last past has been, the General Manager of the Southern California Railway Company; that he has read the above and foregoing answer, and that the allegations and facts therein stated are true, to the best of his knowledge, information, and belief.

(Signed :) K. H. WADE.

Subscribed and sworn to before me, this 1st day of August, 1896.

CHARLES LONG.  
Notary Public in and for San Diego County, Cal.

Whereupon, the Board proceeded with an investigation of the matters set forth in the foregoing complaint. M. A. Luce and Watson Parrish, attorneys, appearing for complainant, and C. N. Sterry on behalf of the



Southern California Railway Company. H. C. Thompson, J. P. M. Rainbow, M. M. Moulton, B. A. Neff, M. Sherman, J. Anglebact, W. C. Kimball, Frank Kimball, E. G. Bradbury, and Daniel Schott testified on behalf of complainant, and C. N. Sterry, J. A. Fairchild, Geo. W. Marston, F. T. Perris, and K. H. Wade on behalf of the Southern California Railway Company. A large amount of documentary evidence was submitted, and the investigation consumed the time of the Commission during the 1st, 3d, 4th, and 5th days of August, 1896. The case was then closed, argued by the respective counsel, and taken under advisement, and on October 14, 1896, the Board rendered the following decision:

Before the Board of Railroad Commissioners of the State of California. Decided Oct. 14, 1896.

*In the matter of the complaint of G. Arnold, of San Diego, against the Southern California Railway Company, praying that this Board declare that said company has forfeited the right to operate its line through the Temecula Cañon.*

Luce & Parrish, for Complainant.

C. N. Sterry, for Southern California Railway Company.

Section 1 of Act to compel railroad corporations or individuals to operate their roads (Approved April 15, 1880) provides that, "upon failure of corporation or individual so owning said road to keep the same, or any part thereof, in full operation for the period of six months, its or his right to operate the same, in whole or in part, as the case may be, shall be forfeited, and the lands occupied for the purposes of its or his road, so far as the same shall not be operated, shall revert to the original owners or their successors in interest."

"SEC. 2. This Act shall not be construed to apply to a case where the operation of a road is prevented by the act of God, nor to a case where the operation of said road, together with its branch or trunk lines, does not yield income sufficient to defray the expenses of maintaining and operating the same in connection with its said branch or trunk lines."

There is no dispute as to the fact that the line of road from Temecula to Fallbrook is not in operation, so that the only question for determination is, whether this Commission shall direct the Attorney-General to institute proceedings against the Southern California Railway Company for forfeiture of its right to operate the whole or part of the Temecula Cañon line.

It appearing to this Commission, from the evidence given, as well as from an inspection made of the Temecula line, that this portion of the Southern California Railway Company's system has been constructed through a narrow, sinuous mountain gorge, the sides of which are covered in many points with loose bowlders of granite, and that the operation of a railroad through the cañon is impracticable, as well as perilous to life and property; and it further appearing that the Southern California Railway Company did not voluntarily abandon that portion not operated at present, but was compelled to do so by reason of several washouts having occurred; and the expense and difficulty of maintenance being considered, as well as the opinion of competent engineers that the amount of \$300,000 might be expended in repairs and new work, without removing the element of danger which would be a great objection to the operation of a road through the cañon; and further, that at one period the sum of \$256,000 was expended in repairs, which were subsequently destroyed by washout, and also the opinion of General Manager Wade, that \$40,000 expended to put the Temecula line in first-class condition would not justify him in running through trains from Barstow to San Diego. It also being in evidence that the shippers from the county tributary to the Temecula Cañon, in letters before the Commission, deny that they have suffered serious inconvenience, but in many cases attest that a liberal policy has been adopted by the company. It is also in evidence that the Southern California Railway Company did, during the time the Temecula Cañon road was washed out, and could not for that reason be operated, construct a railroad from San Bernardino through the Santa Ana River Cañon to Oceanside, connecting at that point with the railroad running from San Diego to San Bernardino through the Temecula Cañon.

The railroad now operated by the Santa Ana route passes through a fertile and productive country, with easy grades and curvatures, comparatively free from danger of washouts and landslides, can be maintained and operated with very much less expense, more safety and punctuality than the road through the Temecula Cañon. The distance over the Santa Ana route from San Diego to San Bernardino being only seventeen and one half (17½) miles greater than by the route through the Temecula Cañon between the above-named points.

The road by Santa Ana makes direct connection with the Atlantic & Pacific at Barstow, via San Bernardino, making through connection between San Diego and the

Eastern and Southern States. Most of the shippers living contiguous to and along the route of the Temecula Cañon road are afforded ample facilities for their local traffic, both freight and passenger.

Owing to the great cost of reconstructing, and greater uncertainty of maintaining the railroad through the Temecula Cañon, between Ranchita and Temecula "if reconstructed," the sudden and great rise of the stream, the exceedingly heavy grades, and sharp curvatures would not, in our judgment, warrant us in requiring the Southern California Railway Company to reconstruct, maintain, and operate that part of said road between Ranchita and Temecula. The road as now operated between San Diego and San Bernardino via Santa Ana Cañon, also between Oceanside and Ranchita, Temecula, and San Bernardino, appears to be quite satisfactory to the great majority of the residents of San Diego and Riverside Counties.

For these and other reasons not necessary to mention, we are of the opinion that the petition should be denied. It is so ordered.

H. M. LA RUE,  
JAS. I. STANTON,  
W. R. CLARK,  
Railroad Commissioners.

Dated San Francisco, October 14, 1896.

The following communication was received from Andrew J. Clunie:

SAN FRANCISCO, June 2, 1896.

*To the Honorable Board of Railroad Commissioners of the State of California:*

GENTLEMEN: Section 21 of the Constitution of the State of California provides:

"No discrimination in charge or facilities for transportation shall be made by any railroad or other transportation company between places or persons or in the facilities for the transportation of the same classes of freight or passengers within this State, or coming from or going to any other State. Persons and property transported over any railroad or by any other transportation company or individual, shall be delivered at any station, landing, or port, at charges not exceeding the charges for the transportation of persons and property of the same class in the same direction, to any more distant station, port, or landing. Excursion and commutation tickets may be issued at special rates."

This provision of the Constitution is being grossly violated by the Southern Pacific Company in the matter of its charges for local travel between the City and County of San Francisco and that part of the City of Oakland lying west of Broadway in said city. This company is engaged in running two lines of ferries to Oakland—one known as the Creek route, which runs from the water-front in the City and County of San Francisco to the foot of Broadway Street, Oakland; the fare for passengers on this route is 5 cents per trip. The other ferry starts from the water-front in the City and County of San Francisco and lands at the extreme west end of Oakland, where passengers are transferred from the ferry to local trains, and then transported to their destination. Between the landing of said ferry and said Broadway Street in Oakland, at the foot of which passengers on the Creek route are delivered, are many important stations. The fare charged by the company on this line to any of said stations is 10 cents, or double the amount charged on the Creek route for delivery of a passenger at the foot of said Broadway Street; and all of said stations west of Broadway are a less distance from the City of San Francisco than the foot of Broadway, at which said station of the Creek route is located. Both of these lines run in the same direction. The same state of facts exists in the transportation of passengers from Oakland to San Francisco; on the Creek route transportation can be had from the foot of Broadway, Oakland, to San Francisco, for 5 cents; on the other route from Broadway and by-stations west of it in Oakland, the fare to San Francisco is 10 cents.

I respectfully request that your Honorable Board take such action in the premises as may compel obedience by this company to the fundamental law of the State.

Respectfully submitted,

ANDREW J. CLUNIE.

Following is the reply of Julius Kruttschnitt to communication from Andrew J. Clunie:

SAN FRANCISCO, June 11, 1896.

*To the Honorable, the Board of Railroad Commissioners of the State of California, Chronicle Building, San Francisco, Cal.:*

GENTLEMEN: I am in receipt of a communication from your honorable body inclosing copy of letter addressed to you by one Andrew J. Clunie, wherein he recites the provisions of Section 21 of Article XII of the Constitution of this State, claiming that because this company is engaged in running a ferry-boat from the water-front of San Francisco to the foot of Broadway in Oakland, by the so-called Creek route, at a fare of 5 cents per passenger, while on the route comprising both ferry and rail service from San Francisco, via Seventh Street to Broadway, Oakland, the fare charged is 10 cents, said constitutional provisions are thereby violated.



An examination of the facts stated by the complainant establishes the fallacy of his conclusions.

The lines in question, although operated by the same company, are entirely separate and distinct, by different routes, between different termini, and the transportation is under different circumstances and conditions. It is not alleged, nor is it true, that any discrimination whatever is made between persons in the use of these several routes, nor can there be any discrimination between places. Both routes are equally open to any one who chooses to use either, and both run between the City of Oakland and the City of San Francisco.

The service via Seventh Street, Oakland, to Broadway is an expensive one, involving the use of steam railroad trains, running into and upon a costly depot, mole, and tracks, while the accommodation given to the passenger is far superior to any that is possible by the Creek route, enabling him to stop at any one of half a dozen stations between the western limits of Oakland and the station at Seventh and Broadway streets. As to the reasonableness of the charge of 10 cents for such a service, there has been and can be no question. Even the complainant does not venture the assertion that such a charge is unreasonably high.

The Creek route is comparatively cheap of operation. All it requires is the use of one ferry-boat, making its landings and receiving and delivering its passengers at the wharves at the foot of Broadway, Oakland, and on the water-front of San Francisco. It is primarily intended for the use of teams, thus avoiding the danger of driving down the long mole alongside of moving trains, and also preventing the overcrowding of boats upon the railroad route by teams, to the inconvenience of the large number of passengers transported thereon. Incidentally, passengers are taken on the Creek boats at the low rate of 5 cents, but few care to avail themselves of such transportation. If a passenger desired to go via that route to Seventh and Broadway streets, Oakland, he would be compelled to either walk seven blocks after arriving at the wharf at the foot of Broadway, or to take a street car, paying therefor the additional fare of 5 cents; and if he desired to go to any of the other stations between Broadway and the western boundary of the city, he would be subject to just so much the more additional trouble and expense.

There is no discrimination at all, and the prohibition of the Constitution against charging a greater rate for a shorter distance than for a longer one manifestly applies to points upon the same route of transportation, and not to parallel but separate routes, over which a passenger has the unrestricted option to travel, according as he desires the greater or less accommodations provided by either.

Yours respectfully,

J. KRUTTSCHNITT,  
General Manager.

On July 8, 1896, this matter was taken up for consideration, but in view of the fact that the restraining order was still pending against the Board, further action was deferred, awaiting the decision of the Circuit Court of the proceedings pending therein.

## DECISION OF JUDGE M'KENNA

IN THE CASE OF

SOUTHERN PACIFIC COMPANY vs. RAILROAD COMMISSIONERS.

Since the filing of our biennial report on the 20th day of November, 1896, the case of the Southern Pacific Company vs. The Railroad Commissioners of the State of California, then pending in the United States Circuit Court, Northern District of California, Hon. Joseph McKenna, Judge, and heretofore referred to, was, on the 30th day of November, 1896, decided as to the temporary injunction prayed for by the Southern Pacific Company. Believing this case to be of so much importance, and of such interest to the people of the State, we herewith give the decision in full:

IN THE UNITED STATES CIRCUIT COURT, NORTHERN DISTRICT OF CALIFORNIA, NINTH CIRCUIT.

SOUTHERN PACIFIC COMPANY, *Complainant*,

vs.

THE BOARD OF RAILROAD COMMISSIONERS OF THE STATE  
OF CALIFORNIA ET AL.

No. 12,127.

(1) Section 22, Article XI, of the Constitution of the State of California, provides as follows:

"The State shall be divided into three districts, \* \* \* in each of which one Railroad Commissioner shall be elected. \* \* \* Said Commissioners shall have power, and it shall be their duty, to establish rates of charges for the transportation of passengers and freight by railroad and other transportation companies, \* \* \* and enforce their decisions and correct abuses through the medium of the courts. \* \* \* Any railroad corporation or transportation company which shall fail or refuse to conform to such rates as shall be established by such Commissioners, or shall charge rates in excess thereof, \* \* \* shall be fined not exceeding \$20,000 for each offense, and every officer, agent, or employé of any such corporation or company who shall demand or receive rates in excess thereof, or who shall in any manner violate the provisions of this section, shall be fined not exceeding \$5,000, or be imprisoned in the county jail one year. In all controversies, civil or criminal, the rates of fares and freights established by said Commission shall be deemed conclusively just and reasonable. \* \* \*"

*Held*, That these provisions give the Commission as ample administrative powers as legislative and judicial powers, and hence the Commission is empowered and directed

not only to establish rates, but to enforce them, and is, therefore, a proper party to a suit by a railroad company affected thereby.

That such a suit is not one to restrain criminal prosecutions, but that it is a suit to restrain an asserted illegal action which may injuriously affect the interest and property rights of complainant. (Mr. Justice Miller's opinion in *Chicago, etc., Ry. Co. vs. Minnesota*, 134 U. S. 459; the *Dey case*, 35th Federal, and the *Gill case*, 156 U. S. 659, followed.)

That the provision of the California Constitution applies to both foreign and domestic corporations, but it is disputable if it is intended as conditions upon either; and further, it is limited by the inhibitions of the Federal Constitution; that under the reserve power of amendment to the charters of corporations (and the same reasoning is applicable to conditions upon foreign corporations), the State cannot only take what it gave, and that the State gave the corporate functions only, not the property acquired by the corporation, and hence over it the State can exercise only the control which it exercises over the property of individuals engaged in similar business. (*The Railroad Tax Cases*, 13 Fed. 722-789, followed.)

That the provision which makes the rates conclusively just and reasonable in all controversies, civil or criminal, is void because in conflict with the Constitution of the United States, as depriving the companies of their property without due process of law and of the equal protection of the laws; but that the provision is clearly separable from those creating the Commission and endowing it with powers, and that, further, the provision is a rule of evidence only, and is not a direction or implication that the rates should be made other than reasonable.

That it is not necessary to the validity of the Commission or its action that the Constitution should provide for notice to the railroads before a tariff of rates may be established affecting them. (Mr. Justice Miller's opinion in the *Minnesota case*, 134 U. S., followed.)

That the Constitution does not discriminate between railroads owned by companies and those owned by individuals. (*Case of Moran vs. Ross*, 79 Cal. 163, followed.)

(2) The Southern Pacific Company operates the several railroads mentioned in the bill under leases from the corporations owning them, and it was contended that these leases were void because executed without express congressional or legislative authority, and, therefore, *ultra vires* of the purpose for which those corporations were created, to wit: the six California corporations, namely: Central Pacific Railroad Company, Southern Pacific Company of California, South Pacific Coast Railway Company, Northern Railway Company, and Northern California Railway Company, without the authority of the California Legislature; the Central Pacific Railroad Company and the South Pacific Railroad Company without express congressional authority.

That the so-called "Pacific System" is an unlawful combination, in violation of Section 2, Article XII, of the Constitution of the State of California.

*Held*, That respondents cannot be heard to make either proposition under the circumstances of the case, because the Commission dealt with the Southern Pacific Company, not with any of its lessor companies. The grain schedule was served on it and can only be enforced through it and its officers, and it is they only who can demand or receive rates in excess of it, and they only who can be punished. Therefore, as the Southern Pacific Company was regulated, it may complain of that regulation; that, if its possession and management of the railroad properties could be accepted as valid by the Commission for the purpose of regulation, they may be accepted by a court of equity for the purpose of determining the justness of that regulation.

The right of the Commission to regulate the individual companies, regarding or regardless of the leases, or to regulate the Southern Pacific Company as operating the several individual roads, or the effect and constitutionality of the statutes of the State in regard to the leasing or operation of roads by domestic or foreign corporations, reserved.

(3) The State has the power to regulate property devoted to a public use; hence has the power to establish a tariff of rates for the transportation of passengers and freight on railroads, and this power may be exercised by the Legislature or by a Commission. It may be as full in the latter as in the former, but in both—as well in one as the other—it is subject to judicial review as to its reasonableness. The State, under this power, may not fix a rate unreasonably low—it may, under this power, prevent a railroad from fixing one unreasonably high, and under this power prevent favoritism and discrimination.

The limitation of the power, whether exercised through the Legislature or a Commission, is the Constitution of the United States, and is based on its guaranties against the taking of property without compensation or due process of law, and its guaranty of the equal protection of the law to all persons.

(4) A tariff of rates is not reasonable which barely omits confiscation—which leave some dividend, whether much or little. To be reasonable it must reimburse charges and expenses and give, besides, an adequate return to investment. (*The Ames case*, 64 Fed. 165, followed. *The Dey case*, 35th Federal, 866, disapproved.)



(5) The interest of La Rue as a shipper of grain and the ante-election pledge of Stanton are not important, because, as to the first, the grain-rate resolution was passed by a vote of the three Commissioners; as to the second, because the final inquiry must be, were the reductions reasonable, and not the prejudice or non-prejudice of Mr. Stanton.

(6) The respondents are entitled to have the grain-rate resolution considered separately from the 25% resolution, unless the showing should be good for either.

(7) The betterments and improvements of the kind shown by the evidence are a proper charge as expenditures. (*The Reagan case*, 154 U. S., and *U. P. R. R. Co. v. U. S.*, 98 U. S. 402, followed.)

*Held*, however, that under certain of the leases such betterments and improvements were not a proper charge to the Southern Pacific Company, and that by deducting these, and the deficit for interest on the Oregon & California road, improperly charged by the Southern Pacific Company, there was a surplus on the Pacific System for 1894 of \$1,055,053 71, instead of a deficit of \$276,262 70, as alleged in the bill; that, making the same deductions for 1895, there was a deficit on the Pacific System of \$545,553 21; and, making proportionate reductions for the roads entirely in California, there was a deficit on such roads of \$552,896 51, and hence there should be no reduction of rates of the Southern Pacific Company, regarding either the Pacific System or the California roads, unless its business increase.

(8) The difference between 1894 and 1895 was caused by a depression in business affecting the market and transportation of all articles, and existed when the bill was filed; that no evidence of a change has been offered and no change may be assumed from the sources of judicial notice so definite in time or amount to determine a judgment; but that this now is not important, as this case can be tried before the Commission can act on the 25% reduction and before any considerable movement in grain, and the conclusion from the preliminary showing be confirmed or refuted, and a final injunction be granted or denied. To this opportunity counsel should eagerly look and eagerly prepare, and then it will be shown whether the allegation of complainant is true, that its rates are just and reasonable and indiscriminative and have been fixed with a regard to the financial, commercial, and competitive conditions; or the allegation of respondents be true, that rates have been fixed at cost of transportation to crush opposition and create monopoly, and the losses entailed recompensed by unjust and unreasonable rates in other portions of the State, so that the revenues of the complainant may be maintained without regard to the interest of commerce and the rights of the public.

(9) That the view taken of the showing made by the complainant makes it unnecessary to consider that made by the United States, and in the latter there are elements which are not in the former, and to give them proper attention would delay decision too long. Besides, the right of the Government to intervene was again challenged by respondents, and with such strength of objection as to justify a review of its allowance, but it should be postponed to a later stage of the case.

(10) That that part of the order staying the execution of the resolution of the Board of Railroad Commissioners, reducing rates on grain 8%, be continued until the further order of the Court—that the balance of the restraining order be dissolved.

MCKENNA, Circuit Judge. This suit is brought against the Board of Railroad Commissioners to enjoin them from enforcing a certain resolution reducing the rates on grain and other freight on the lines of railroad operated by complainant. The bill is too long to quote in full, hence I shall give only such summary of its important allegations as will assist the understanding of this opinion. It alleges the jurisdictional facts, and the official character of respondents, and that the complainant is a corporation, and was incorporated and organized by an Act of the Commonwealth of Kentucky, empowering it to operate the lines of railroads described, and operating them as one system, generally known as the Pacific System of complainant.

That it has a paid-up capital stock of \$120,934,170, distributed among one hundred and fifty shareholders. The lines of railroads are given by name, with their respective mileage and termini.

That certain of said roads have an outstanding indebtedness, incurred for their construction and equipment, represented by interest-bearing



bonds and secured by mortgage. The amount of indebtedness and the annual interest are given.

That, by the leases to it, complainant is required to operate and maintain said roads in good repair, pay taxes, and provide for the payment of the interest aforesaid, which amounts in the aggregate to \$8,420,000, or thereabouts.

That to some of said roads complainant is obliged to pay a certain rent, and to pay certain sums to the Government of the United States. The amount of rent and such sums are given, and, as far as necessary, will be referred to hereafter.

That none of the lessor companies, except the California Pacific Company and Northern Railway Company, have for more than a year last past received or been entitled to any profit or net income whatever, or been able to pay any dividend to stockholders. That the rent received by the California Pacific Company and Northern Railway Company, after deducting necessary payments of interest and expenses, amounts to less than 2½% per annum upon their respective capital stock, and that this must be expended in betterments and additions which are necessary for the proper operation and equipment of the road.

That the cost and value of the properties largely exceed the bonded indebtedness respectively thereon.

That complainant has invested \$4,832,491 78 in the purchase of property necessarily used and necessary to be used for and in connection with the operation of said roads as said Pacific System, and of said amount the sum of \$4,000,000 is invested in California.

That, in order to enable complainant to operate said road, it must receive income sufficient to pay expense, interest, etc., and is entitled to some profit.

That complainant is engaged in State and interstate traffic, and that the rates of the latter have been fixed in pursuance of the provisions of the Act to regulate interstate commerce, and that the rates on State traffic have been fixed as to the roads in California and Oregon by the Boards of Railroad Commissioners of said States, and in Nevada and the Territories in accordance with the laws thereof, respectively. That the rates upon freight arising and transported entirely in California are now lower, both actually and relatively, than the rates on freight arising and transported entirely within either of the other States, and when established were no more than sufficient to operate said roads down to the commencement of the year 1894, and that in that year an unusual depression in business occurred, so reducing the business of the complainant as to render its income insufficient to pay expenses, as hereinbefore set forth. That said depression, it is alleged on information and belief, will not be relieved, and that the business will not be increased during the present, or the next ensuing, year. That from time to time reductions have been made in rates, and from January, 1889, to June, 1895, to the amount of more than 35%. A table, showing the reduction by years, is given in the bill.

That the total receipts and expenditures of the Pacific System, during the calendar year 1894, were as follows:

Receipts.....	\$31,458,522 64
Expenditures.....	31,734,785 34
Showing a deficiency of .....	276,262 70

The items of receipts and expenditures are given.

That the total receipts for the first six months of the current year (1895), from the 1st day of January to the 30th day of June, for the Pacific System, were as follows:

Receipts.....	\$14,836,125 77
Expenditures.....	16,312,302 16
Leaving a deficiency of.....	1,476,176 39
The items are given.	

That there has been at all times economy of operation, and that the operation of said road as a system is a convenience to the public. The number of officers employed is alleged to be seventy-one, who received a daily compensation of \$16 25; total yearly compensation, \$361,079 04. All its other employes, numbering 15,064, received an average daily compensation of \$2 54; total yearly compensation, \$11,972,667 73. That these rates were not unreasonable.

That the rates in force upon the several railroads operated by complainant have been fixed according to circumstances and conditions surrounding the traffic, and with a careful regard to those conditions which affect their relative adjustment and classification, and are fair to shippers, and in many cases are fixed at the actual cost of transportation by reason of water and railroad competition.

That, notwithstanding the premises, the Board of Railroad Commissioners did, on the 12th and 13th days of September, 1895, pass and adopt the resolutions complained of. They are set out in the bill and, as the 25% resolution is given hereafter, I omit them here.

The grain resolution is as follows:

"*Resolved*, That the rates at present existing for the transportation of grain in California by the Southern Pacific Company and its leased lines, as established by Grain Tariff No. 2, and all subsequent amendments thereto, be, and the same are, hereby reduced 8%, and the Secretary of this Board is hereby directed forthwith to prepare for publication by this Board a schedule of rates in accordance herewith, and when so prepared the same shall be published at once and take effect as soon thereafter as allowed by law, and that, on the adoption of the revised general freight tariff of said company herein provided for, any further per cent reduction due said grain tariff as provided herein shall be given."

That portion of the resolution having reference to the grain rates was adopted by an unanimous vote, and the remainder thereof was adopted by the vote of Hugh M. La Rue and James I. Stanton, William R. Clark voting against same.

That, pursuant to the resolution, a schedule of the grain rates was prepared and served on complainant on the 26th day of September, 1895, and that the Board is proceeding to prepare a schedule of other rates and will, not later than January 1, 1896, enforce them, unless restrained. Complainant avers that there is no reason to believe that there can be and will be an increase of complainant's business, and that the rates and reductions were resolved on arbitrarily and without evidence, and will be unjust, unfair, and unreasonable, and confiscatory of the property rights of complainant and its lessors.

That such rates will require complainant to carry many classes of freight at less than cost, and that such loss cannot be made good; that they cannot be adopted without irreparable injury, and will cause a diminution of revenues, as nearly as can be ascertained, of \$1,600,000 per

annum, and will be insufficient to pay expenses as aforesaid so that traffic can be conducted with safety, and, on information and belief, avers that the deficiency of the next ensuing year will exceed the sum of \$4,000,000. That the injurious effect will extend to the interstate business of complainant to the amount of upward of \$250,000. The reasons and manner are stated.

The bill gives the names of the California roads and their mileage, the bonded indebtedness and the amount of annual interest, their total receipts and expenditures, by items, for the year 1894 and the first half of the year 1895.

The receipts for 1894 were.....	\$20,993,483 39
Expenditures.....	20,558,991 34
Leaving a surplus of.....	434,497 05
 The total receipts for 1895 (ending June 30).....	 \$9,932,611 82
Expenditures.....	10,796,303 11
Leaving a deficiency of.....	863,691 29

And it is alleged that under the proposed rates there would have been for 1894, instead of a surplus, a deficiency of \$1,340,502 95. And the deficiency of 1895 would be increased to \$1,681,914 57.

That there is no reason to expect a compensating increase of business, and hence during the next ensuing year there will be a deficiency of \$2,363,829 14 on the California roads.

That the defendants threaten a reduction in the rates of passenger fares, which are already just and reasonable.

That Mr. La Rue and Mr. Stanton took the following pledge before election and were elected in consequence thereof:

"Resolved, That the charges for the transportation of freights in California by the Southern Pacific Company of Kentucky and its leased lines should be subjected to an average reduction of not less than 25%, and we pledge our nominees for Railroad Commissioners to make this reduction."

That Mr. La Rue is a raiser of agricultural produce and a shipper thereof, and hence interested against complainant. That complainant has not consented to their acting, but protested against it.

That the provisions of the Constitution of the State of California, and the Act of the Legislature in aid thereof, are in violation of Section 1 of the Fourteenth Amendment of the Constitution of the United States. The particulars will be indicated hereafter.

That defendants will proceed to promulgate and enforce the rates of freight aforesaid, and that complainant will be harassed by a multiplicity of suits to enforce the same or the penalties of the Constitution of the State.

That the suit is of a civil nature, and that the matter in dispute exceeds, exclusive of interest and cost, \$5,000, and that it is a cause arising under the Constitution and laws of the United States.

There is the usual prayer for injunction, *pendente lite* and perpetual.

There were filed with the bill affidavits supporting its allegations, and a temporary restraining order was granted, and also an order to show cause why it should not remain pending the suit. Upon the hearing, refuting affidavits were filed by respondents, and against these and in support of the bill complainant also filed other affidavits. There were also presented voluminous extracts from the testimony taken by the Pacific Railway Commission, to show a wasteful and extravagant con-



struction of certain of the roads, and also a diversion of the revenue to dividends instead of being employed in debt-paying.

There were also introduced the leases to the Southern Pacific Company and its annual report to its stockholders, showing the operations of its proprietary lines and those operated under leases; a very full exposition of expenses and receipts.

The case has been elaborately argued—how elaborately is indicated by the fact that when put into printed form the arguments of complainant's counsel occupy 1,147 pages, and those of respondents 1,031 pages. It is needless to say that counsel were all able, and that they neither abused nor wasted the opportunity given to them, nor neglected a single topic which could illustrate or expound the intricate problems involved in the controversy.

The United States Attorney, Mr. Foote, also presented a full and strong argument on behalf of the Government's intervention and its right to an injunction against the Commissioners.

The evidence and the arguments had to be considered by me, and this accounts in part for the time I have taken for decision. In part, it is accounted for by other and imperative demands on my attention. This opinion will be long, and, while there is justification for it, I have, nevertheless, leaned against too elaborate an exposition, but I hope in avoiding prolixity I have not slighted any essential proposition or failed to make my meaning plain.

The many propositions urged upon my consideration may not with clearness be tabulated or presented in a determined order. Some, however, naturally assume a precedence, and of these the two following are earnestly and ably urged by the counsel for respondents as settling the controversy:

(1) That action on the grain resolution is completed, and hence the Board of Railroad Commissioners has no further office to perform. Or, putting it another way: The schedule has become the law of the land, to be enforced by suit by the proper State officers or by shippers.

(2) As to the other resolution, which may be called the 25% resolution, action has not gone far enough. It is claimed to be but a resolution of inquiry upon which action is not yet determined.

Section 22, Article XI, of the Constitution of California, is as follows:

"The State shall be divided into three districts, \* \* \* in each of which one Railroad Commissioner shall be elected. \* \* \* Said Commissioners shall have power, and it shall be their duty, to establish rates of charges for the transportation of passengers and freight by railroad and other transportation companies \* \* \* and enforce their decisions and correct abuses through the medium of the courts. \* \* \* Any railroad corporation or transportation company which shall fail or refuse to conform to such rates as shall be established by such Commissioners, or shall charge rates in excess thereof, \* \* \* shall be fined not exceeding \$20,000 for each offense, and every officer, agent, or employé of any such corporation or company who shall demand or receive rates in excess thereof, or who shall in any manner violate the provisions of this section, shall be fined not exceeding \$5,000, or be imprisoned in the county jail one year. In all controversies, civil or criminal, the rates of fares and freights established by said Commission shall be deemed conclusively just and reasonable, and in any action against such corporation or company for damages sustained by charging



excessive rates, the plaintiff, in addition to the actual damages, may, in the discretion of the judge or jury, recover exemplary damages. Said Commission shall report to the Governor, annually, their proceedings, and such other facts as may be deemed important. Nothing in this section shall prevent individuals from maintaining actions against any of such companies. The Legislature may \* \* \* confer such further powers on the Commissioners as shall be necessary to enable them to perform the duties enjoined on them in this and the foregoing section." \* \* \*

The Legislature passed an Act in aid of the Constitution, which is entitled "An Act to organize and define the power of the Board of Railroad Commissioners," approved April 15, 1880.

Section 11. "Whenever said Board, in the discharge of its duties, shall establish or adopt rates of charges \* \* \* pursuant to the provisions of the Constitution, said Board shall serve a printed schedule of such rates \* \* \* upon the \* \* \* corporation affected thereby, and upon such service it shall be the duty of such \* \* \* corporation to immediately cause copies of the same to be posted in all its offices, station-houses, warehouses, and landing offices affected by such rates, \* \* \* in such manner as to be accessible to public inspection during usual business hours. Said Board shall also make such further publication thereof as they shall deem proper or necessary for the public good. \* \* \* The rates of charges established or adopted by said Board, pursuant to the Constitution and this Act, shall go into force and effect on the twentieth day after service of said schedule."

In this action we are concerned only with the acts of the Board of Railroad Commissioners, performed, performing, or to be performed. With the rights shippers have we are not concerned. The grain schedule was served, and the twenty days prescribed by statute, after which the rates should go into effect, had expired when the bill was filed. Were there yet any acts or duties to be performed by the Board? It is very clear that if there was nothing left to be performed—if the rates had become the law, to be enforced by other officers than the Commissioners—there was nothing to be enjoined in a suit against the Commissioners.

The Constitution is certainly not clear, and interpretation must be exercised by a very careful consideration of its language.

After providing for the election of Railroad Commissioners, it enumerates their duties as follows (which I shall number for the purpose of distinction and reference).

Said Commissioners shall have the power, and it shall be their duty:

(1) To establish rates of charges for transportation of passengers and freights by railroad and other transportation companies, and publish the same from time to time with such changes as they may make;

(2) To examine the books, records, and papers of all railroad and other transportation companies, and for this purpose they shall have the power to issue subpoenas and all other necessary process;

(3) To hear and determine complaints against railroad and other transportation companies, to send for persons and papers, to administer oaths, take testimony, and punish for contempt of their orders and processes, in the same manner and to the same extent as courts of record, and to enforce their decisions and correct abuses through the medium of the courts;

(4) Said Commissioners shall subscribe (? prescribe) a uniform system of accounts to be kept by all such corporations and companies.

It is under the third of the said enumerated provisions of the Board that there is an implicit direction to "enforce their decisions and correct abuses through the medium of the courts." Let us repeat its language in connection with the direction and injunction to the Board. "Said Commissioners shall have the power, and it shall be their duty, \* \* \* to hear and determine complaints against railroad and other transportation companies, to send for persons and papers, to administer oaths, take testimony, and punish for contempt of their orders and processes, in the same manner and to the same extent as courts of record, and to enforce their decisions and correct abuses through the medium of the courts."

It appears, therefore, that the Board may hear and determine complaints. What complaints? Surely these may be as broad as the Board's powers are, and as various as the misconduct of transportation companies. Upon whose complaint? Must the Board wait, as a court does, to be invoked? Is it not a different instrumentality from a court? An active, seeking, supervising one—the eye and the activity of the State—expected to see and do what private interests may overlook or be deterred from doing? I think so. But, grant I am wrong, the Board has the further power to correct abuses. What abuses? Only those complained of, or those besides which it discovers? If only those complained of, the phrase "to correct abuses" is but a repetition of the phrase "to enforce their decisions." Primarily, we may not assume that it is superfluous, and reflection of the purposes of the Constitution convinces that it was not intended to be. It must be construed as an independent gift of power giving the Commissioners as ample administrative powers in proper places as judicial and legislative powers in proper places. That this construction will make the Board more efficient there can be no doubt, and I am not disposed to interpret any ambiguity so as to take away a valuable power and one so consistent with, and may be necessary to, the purposes for which the Commission was created.

The first contention is, therefore, not good.

The second contention is, that the 25% resolution is only one of inquiry, not one of definite action, or necessarily one even of intended action. The Attorney-General says: "It is a kind of declaration, not binding upon the Railroad Commissioners as a body, or upon anybody else." He also says: "It does not amount to anything. It is the schedule, after all, which is the law."

But it would seem that this is but a part of the sweeping contention that the Railroad Commissioners are not amenable to restraint at all. Not, it is claimed, before a schedule is prepared, and served, because their functions are then legislative. Not after a schedule is prepared, and served, because their function is done and their acts are law; the enforcement of which must be restrained, if at all, by suits against other officers than them. In other words, that the function of the Commissioners is that of the Legislature of the State, and, like the Legislature, not amenable to the control of the courts. If this is so, it would seem from many precedents of suits against Commissioners that it results from provisions peculiar to the California Commission, and not from anything inevitably incident to the function or the office.

In support of this contention, a great many cases have been cited and

reviewed which I need not comment upon. They, undoubtedly, decide that the purely legislative functions of any official body cannot be controlled by the courts, but in the case of Railroad Commissions, the Supreme Court of the United States has distinguished executive from legislative functions, and has asserted the power to restrain the latter when their attempt is to enforce a tariff of rates which may be unjust and unreasonable. (*Railroad Commission cases*, 116 U. S. 307; *Reagan vs. Farmers' Loan & Trust Company*, 154 U. S. 362.)

In the latter case, the powers of the court were clearly defined, and I shall quote from it fully.

The same broad contention was made in that case that is made in this, and to it the court replied, through Mr. Justice Brewer, as follows:

"It appears from the bill that, in pursuance of the powers given to it by this Act, the State Commission has made a body of rates for fares and freights. This body of rates, as a whole, is challenged by the plaintiff as unreasonable, unjust, and working a destruction of its rights of property. The defendant denies the power of the court to entertain an inquiry into that matter, insisting that the fixing of rates for carriage by a public carrier is a matter wholly within the power of the legislative department of the Government and beyond the examination by the courts. \* \* \* (And, after further comment:) The courts are not authorized to revise or change the body of rates imposed by a Legislature or a Commission; they do not determine whether one rate is preferable to another, or what under all circumstances would be fair and reasonable as between carriers and shippers; they do not engage in any mere administrative work; but still there can be no doubt of their power and duty to inquire whether a body of rates prescribed by a Legislature or a Commission is unjust and unreasonable, and such as to work a practical destruction to rights of property, and if found so to be, to restrain its operation."

After reviewing a number of cases, the learned Justice continued as follows:

"These cases all support the proposition that, while it is not the province of the courts to enter upon the merely administrative duty of framing a tariff of rates for carriage, it is within the scope of judicial power and a part of judicial duty to restrain anything which, in the form of a regulation of rates, operates to deny the owners of property invested in the business of transportation that equal protection which is the constitutional right of all owners of other property. There is nothing new or strange in this. It has always been a part of the judicial function to determine whether the act of one party (whether that party be a single individual, an organized body, or the public as a whole) operates to divest the other party of any rights of person or property. In every Constitution is the guarantee against the taking of private property for public purposes without just compensation. The equal protection of the laws which, by the Fourteenth Amendment, no State can deny to the individual, forbids legislation, in whatever form it may be enacted, by which the property of one individual is, without compensation, wrested from him for the benefit of another, or of the public. This, as has been often observed, is a government of law, and not a government of men, and it must never be forgotten that under such a government, with its constitutional limitations and guaranties, the forms of law and the machinery of government, with all their reach



and power, must in their actual workings stop on the hither side of the unnecessary and uncompensated taking or destruction of any private property, legally acquired and legally held. It was, therefore, within the competency of the Circuit Court of the United States for the Western District of Texas, at the instance of the plaintiff, a citizen of another State, to enter upon an inquiry as to the reasonableness and justice of the rates prescribed by the Railroad Commission."

And, marking the limits of the powers of the court, he further said:

"As we have seen, it is not the function of the courts to establish a schedule of rates. It is not, therefore, within our power to prepare a new schedule or rearrange this. Our inquiry is limited to the effect of the tariff as a whole, including therein the rates prescribed for all the several classes of goods, and the decree must either condemn or sustain this act of quasi legislation."

We are brought back to the inquiry concerning the duties which are devolved on the Board of Commissioners, and these, we have seen, are not only to enact provisions of regulation of rates, but to enforce them, and hence, certainly when the former is done and the latter is threatened, the courts have power to review the regulation and, to use Justice Brewer's words, "condemn or sustain this act of quasi legislation."

The broad contention of respondents cannot, therefore, be sustained. May the special one (to quote the Attorney-General), that the 25% resolution is "a kind of declaration not binding upon the Railroad Commission as a body, or upon anybody else"?

In an absolute sense, the resolution is not binding on the Railroad Commission, or on any one else. It would not be, even if a formal schedule were prepared—not even if the schedule were served. Its obligation only attaches upon thirty days after service. It cannot be enforced until then. It need not be obeyed until then. But the object of the suit is to prevent that occurrence—to arrest its obligation, not as an executed exercise of power, but as a threatened exercise of power. The question, then, is, is the resolution of this character as tested by the Reagan case? "It is not the function of the courts," says that case, "to establish a schedule of rates. \* \* \* Our inquiry is limited to the effect of the tariff as a whole, including therein the rates prescribed for all the several classes of goods, and the decree must either condemn or sustain this act of quasi legislation."

Does not this mean that the power of the courts is confined to review only? What judgment is to be exercised is beyond their control. A regulation being determined by a Board of Railroad Commissioners, then an inquiry as to its reasonableness will be entertained and judicially sustained or condemned as it is that or not that.

Is the 25% resolution such a determination?

The resolution is as follows:

"*Resolved*, That the present rates of charges for the transportation of freights in California by the Southern Pacific Company, and its leased lines, are unjust to the shippers of the State; therefore, be it

"*Resolved*, That the present rate of charges for the transportation of freights in California by the Southern Pacific Company, and its leased lines, be subjected to such an average reduction as, including all reductions made therein since December 1, 1894, shall equal an average reduction of 25% upon said rates as in existence on said December 1, 1894;



"*Resolved*, That this Board proceed at once to adopt a revised schedule of rates in accordance herewith, in order that the same may be in force on or before January 1, 1896; and be it further

"*Resolved*, That, if the necessities of the case so require, this Board will at once proceed to the ascertainment of the proportion of the reduction due any commodity which, by reason of its nature, requires to be moved between now and the time herein fixed of the taking effect of said general reduction."

The language of the resolution is positive as to the necessity of the reduction and as to the amount, and upon what consideration and evidence it was based, Mr. La Rue recites in his affidavit, as follows:

That the reduction in grain rates established, and the further reduction upon all other classes of freights generally proposed, were not resolved arbitrarily, but after a complete individual and official investigation of the existing rates upon the various roads and of the effect thereof upon the commerce of the State; upon the earnings and expenses, the revenues, the fixed charges, bonded indebtedness, and net income of said lines of railroad of said corporations. That a full and complete hearing, covering a number of days, was accorded complainants, who appeared by attorney, and that a large number of witnesses were examined; that the grain and other rates were fully investigated, and from such investigation affiant affirms his belief that the grain and other rates in existence on the 12th of September, 1895, on said railroads "were and are excessive, exorbitant, and discriminative, and were and are a burden upon and unjust to the shippers of California"; that the grain reduction, and reduction in other rates, "as is indicated in said resolution, would be fair, just, and reasonable, both to the shippers of the State and to each and all of the alleged lessors of said complainant owning lines of railroad within the State of California and within the jurisdiction of said Board and to said complainant."

There are repetitions of these allegations in other paragraphs.

Language can hardly be clearer or stronger. It opposes to the allegations of the bill the utmost explicitness of statement (repeated in several ways) that the rates are unjust, discriminative, and burdensome. And this conviction is expressed upon an individual and collective investigation into all the elements of judgment regarding the interest of the roads and the interests of the State. I repeat, language can hardly be clearer or stronger. It is a confident declaration of knowledge, and seems to leave as to the totality of the reduction no fact to be inquired about—none of its justice or the duty and purpose of the Board. It would seem, therefore, to bear the test of the *Reagan case*. But, in other affidavits, Mr. La Rue and Mr. Stanton aver that they did not intend the resolution as a final judgment of the Board; but that the Board intended a more definite and particular investigation into the conditions of the several railroads forming the Pacific System of complainant, and that regulation or non-regulation will depend upon that investigation, and more explicitly and emphatically have they stated this through their counsel.

Mr. Hayne said: "They (the Commission) say that they do not consider it binding, and are not going to do anything without further consideration, which, of course, may lead to very different results. The service, if it is to be made, has to be made by their order, by their authority. And they have not yet even *made up* the schedule which is to be served.

They come here, high officers of State, and swear they are not going to take the action without a further, full, free, and fair investigation."

I am disposed to accept this as true and sincere. Indeed, I do not know how not to do so regarding them, as they must be regarded as truthful, nor do I care to risk the slightest embarrassment to them as officers in any proper investigation of the complainant or any of its constituent roads, the results of which cannot be put into force, even if it was desired to, except in a direct and open way, and the detriment of which, if any, can be arrested before it falls.

The respondents object to the remedy of the bill, and insist that no injunction can be granted, because the things to be restrained, it is claimed, are criminal prosecutions, and them a court of equity cannot enjoin.

The answer to this contention is, that this is not a suit to restrain a criminal prosecution. It is a suit to restrain an asserted illegal action of the Board of Railroad Commissioners which will injuriously affect the interests and property rights of the complainant." Besides, the contention is fully answered by authority. Mr. Justice Miller, in his concurring opinion in *Chicago, etc., Railway Company vs. Minnesota*, 134 U. S. 459, laid down certain principles in the form of propositions which should govern the class of questions with which this case is concerned. After stating the power of the Legislature, either directly or through the agency of a commission, to regulate rates, and the limitations upon such power to be that the rates should not be so unreasonable as to practically destroy the value of the property, or so exorbitant as to be in utter disregard of the rights of the public, said:

"4. In either of these classes of cases there is an ultimate remedy by the parties aggrieved, in the courts, for relief against such oppressive legislation, and especially in the courts of the United States, where the tariff of rates established either by the Legislature or by the Commission is such as to deprive a party of his property without due process of law.

"5. But until the judiciary has been appealed to to declare the regulations made, whether by the Legislature or by the Commission, voidable for the reasons mentioned, the tariff of rates so fixed is the law of the land, and must be submitted to both by the carrier and the parties with whom he deals.

"6. That the proper, if not the only, mode of judicial relief against the tariff of rates established by the Legislature or by its Commission, is by a bill in chancery, asserting its unreasonable character and its conflict with the Constitution of the United States, and asking a decree of court forbidding the corporation from exacting such fare as excessive, or establishing its right to collect the rates as being within the limits of a just compensation for the services rendered.

"7. That until this is done it is not competent for each individual having dealings with the carrying corporation, or for the corporation with regard to each individual who demands its services, to raise a contest in the courts over the questions which ought to be settled in this general and conclusive method."

The respect which Mr. Justice Miller's opinion on any proposition receives would justify me in resting my decision of this point on his views, but he is supported by Mr. Justice Brewer in the *Dey case*, also by the *Gill case*, 156 U. S. 659, where his words are quoted and

approved, and by the implied authority of the *Reagan case*, and other cases.

There are two other propositions made by respondents which precede the consideration of the merits, properly so called. They are as follows:

(1) That the leases, executed by the several lessor companies to the complainant, by the terms of which all of their franchises and property were transferred, are void, because executed without express congressional or legislative authority, and, therefore, *ultra vires* of the purposes for which those corporations were created: to wit, the six California corporations, namely, Central Pacific Railroad Company, the Southern Pacific Company of California, South Pacific Coast Railway Company, the Northern Railway Company, and the Northern California Railway Company, without the authority of the California Legislature; the Central Pacific Railroad and the Southern Pacific Railroad Company without express Congressional authority.

(2) That the so-called Pacific System is an unlawful combination, in violation of Section 20, Article XII, of the Constitution of the State.

These propositions are countered by the complainant by the objections that the Board of Commissioners cannot be heard to make either proposition; not the first, because the leases are not open to collateral attack on the ground of *ultra vires* in this proceeding and under the circumstances of this case; that the sovereign alone can object, and that they must be held valid until declared otherwise by a direct proceeding. Not the second, because the Board of Railroad Commissioners has dealt with and its proceedings and orders are against the Southern Pacific Company and not the several or any of the lessor companies.

These counter propositions should be first considered, and if well made will save an inquiry of the strength of the others, and many independent ones which have been argued at length and with ability by counsel. The consideration falls under two heads:

(1) Abuse of powers. Acts in excess of its conditions and limitations. These, it is conceded, are not subject to collateral attack.

(2) Total want of power without limitation or qualification. These, it is asserted, are open to collateral attack by anybody, and the ground of it is said to be an antagonism to public policy.

The cases cited by respondents' counsel undoubtedly establish that a railroad company has only the powers conferred by its charter, and that contracts in excess of these are void; and, if void as to one party, void as to all parties. For this doctrine, however, the decisions of the Supreme Court are sufficient. Mr. Justice Gray said, in *Central Transportation Company vs. Pullman Car Company*, 139 U. S. 40: "Upon the authority and the duty of a corporation to exercise the powers granted to it by the Legislature, and those only; and upon the invalidity of any contract, made beyond those powers, or providing for their disuse or alienation; there is no occasion to refer to decisions of other courts, because the judgments of this court, especially those delivered within the last twelve years by the late Mr. Justice Miller, afford satisfactory guides and ample illustrations."

The learned Justice then reviews the cases, and sums up as follows:

"The clear result of these decisions may be summed up thus: The charter of a corporation, read in the light of any general laws which are applicable, is the measure of its powers, and the enumeration of those powers implies the exclusion of all others not fairly incidental.



All contracts made by a corporation beyond the scope of those powers are unlawful and void, and no action can be maintained upon them in the courts, and this upon three distinct grounds: The obligation of every one contracting with a corporation, to take notice of the legal limits of its powers; the interest of the stockholders, not to be subjected to risks which they have never undertaken; and, above all, the interests of the public, that the corporation shall not transcend the powers conferred upon it by law. A corporation cannot, without the assent of the Legislature, transfer its franchise to another corporation, and abnegate the performance of the duties to the public imposed upon it by its charter as the consideration for the grant of its franchise. Neither the grant of a franchise to transport passengers, nor a general authority to sell and dispose of property, empowers the grantee, while it continues to exist as a corporation, to sell or to lease its entire property and franchise to another corporation. These principles apply equally to companies incorporated by special charter from the Legislature, and to those formed by articles of association under general laws."

This must be accepted as law. But is it applicable to the case at bar? The instance upon which it was expressed arose out of a controversy between the parties to the act which was held to contravene public policy, and of like kind were the cases cited and reviewed.

The contract being void as to one of the parties was void as to all. But the case at bar is not between the contracting parties—not between the Southern Pacific Company and its various lessor companies. It is concerned alone with the acts of the State as affecting the property of one of its citizens or residents. There is no element of antagonism to public policy, as that is understood and involved in the cases cited. There are no contracting wrongdoers seeking to avoid or enforce an act of misfeasance. The case of *Central Transportation Company vs. Pullman Car Company*, hence, lacks an essential analogy to the case at bar. It, besides, seems inapplicable, not only from the essential nature of the Board of Railroad Commissioners, but from the terms of the Constitution of the State. The power and duty of the Board is "to establish rates of charges for the transportation of passengers by freight and other transportation companies" (Sec. 22, Art. XII, Constitution), and the Act in aid of the Constitution continues the idea, and provides as follows:

"Section 14. The term 'transportation companies' shall be deemed to mean and include:

"First—All companies owning and operating railroads (other than street railroads) within this State."

\* \* \* \* \*

"The word 'company,' as used in this Act, shall be deemed to mean and include corporations, associations, partnerships, trustees, agents, assignees, and individuals."

It was admitted in the argument that the Board of Commissioners dealt with transportation companies as they existed as a fact, not with the validity of their existence. It is easily conceivable that if the latter were necessary, confusion and weakness of administration would result.

On the argument the following colloquy occurred between counsel; Mr. Garber, one of the counsel for complainant, and Mr. Hayne, one of the counsel for respondent:

"MR. GARBER (among other things). Even if the State of California, in the exercise of its police power and the power to regulate rates and



charges of these companies, could itself have gone back of the concrete fact of operation and transportation and use by the companies, it has not conferred upon this Commission any such power. Every feature, every line of this constitutional provision, and of the statute reinforcing it, negatives any such thought, in my judgment.

"MR. HAYNE. That is, that the Commission should inquire into——

"MR. GARBER. Into the validity of this lease. I say they have no power to do it.

"MR. HAYNE. We do not say that the Commission has that power, but we say that, when the complainant comes before the court, the court has it."

And it was further admitted that the question of *ultra vires* and public policy and fraud, which had been discussed in court, the Commission had not the power to entertain; but it was claimed that the validity of the leases and their character became a link in complainant's chain of title—a condition of its right, if I understand the claim, of its appeal to a court of equity. But this is not so. The condition of its appeal to a court of equity is that it has assumed to be, and that the State has assumed it to be, a transportation company, and has dealt with it as such—regulated properties in its possession as such. In question of its rights? Certainly not; but only in regulation of them, and how can a court judge of the regulation but as the Commissioners did? And what rights or wrongs of the complainant can the court consider which the Commissioners could not? If complainant could be regulated, it can complain of that regulation. It and the Commission were not parties to an illegal contract from which the law will give no relief—leaving them where they put themselves, as in the cases cited by counsel. The Board of Railroad Commissioners is a governmental agent, performing a duty, executing a power. It acts (either administratively, judicially, or legislatively; it is not necessary now to consider which) for the State. Ought it to say—can it be heard to say—that any person can be an outlaw to its action? Would this not be an absolute perversion of its powers? Can the Commission, being bound by a fact, or having the right to assume a fact, in its action, yet question the fact when its action is complained of? A negative is so self-evident that it seems to be weakened by an attempt to support it. Certainly analogies from cases of wrongdoers help us nothing. The law (which is the State), for wisest policy, will give no help to wrongdoers. They being *in pari delicto*, the law gives aid to neither. But wouldn't it be anomalous, if nothing more, for the law itself to claim to be *in pari delicto* with anybody, and that, too, by proceedings *in invitum*, and then assert irresponsibility or immunity by it? As I have said, a negative seems self-evident, and the only difficulty I have found in the contention of respondents is in the ability and earnestness of the counsel who urge it, and I pass it now—with something of the feeling that I may not understand it, and, because not understanding it, do not appreciate its strength.

The Commissioners dealt with the Southern Pacific Company. Their notices were served on it, their hearings were granted to it, and the grain schedule was served on it. The object of the other resolution is the regulation of it. It is only its officers, agents, or employes who could be fined or imprisoned for violation of such regulation, for it is only they who could demand or receive rates in excess of those prescribed. The strength of this reasoning was felt somewhat by counsel for the

respondents, and it was sought to be answered by saying that the Southern Pacific Company was the agent of its lessor companies. If this, as an argument, be not *felo de se*, its inadequacy is apparent. If accepted fully, and it must be if at all, the civil and criminal responsibilities would be staggering. I think, therefore, that, as the Southern Pacific Company was regulated, it may complain of that regulation; that if its possession and management of the railroad properties could be assumed or accepted as valid by the Board of Commissioners for the purpose of regulation, they may be by the court, in order to review the justness of that regulation. This is consistent and rational—makes effective the Constitution and the laws, and gives full and efficient exercise to and execution of the powers of the Board.

Farther than this I do not now consider it necessary to go. May be, farther than this I cannot go; for beyond this there are serious questions. A Railroad Commission is a State instrumentality, having the power, and obliged as a duty, to regulate the rates on railroads of the State. It may do so on one and all, according to the conditions and circumstances of each. Surely so, if the roads be under separate ownership and management, and may be so when united in ownership or management.

It is seriously disputable if any road can remove itself from amenability to regulation, even if it have the power to lease. Under the power to lease, the operation of the road may be transferred, but transferred with all legal burdens on its head, with all the compulsory submissions to which it is subject.

However, these questions may be passed now to puzzle a future consideration, as well as that other, and even more serious one, of what makes the value of a railroad. The question came up in the *Ames case*, but only came up, but was not answered. Is it what it cost, or what it could be built for, or what it can charge if not regulated?

This view makes it unnecessary to consider whether the Act of the State of California, passed in 1861 and amended in 1863 (Stats. 1863, p. 613), which reads as follows: "Any railroad corporation organized under the Act to which this is amendatory shall have the right to lease the whole or any portion of their road to *any other corporation organized under this Act*, or to grant to any such corporation the right to use in common any portion of their road"; or the Act of April 3, 1880 (Stats. 1880, p. 21) entitled "An Act permitting and authorizing railway and other corporations, organized under the laws of this State, or of any State or Territory, or any Act of Congress of the United States of America, to do business on equal terms," confer on railroads the power of leasing, or that the latter Act is unconstitutional because its object is not expressed in its title, or to determine the other controversy raised on the statutes of the State of Kentucky incorporating the Southern Pacific Company.

It is also contended that the Constitution applies to all corporations, foreign and domestic, and that its provisions are binding upon both, without, as I understand counsel, the right of objection on the part of either to their invalidity, for the following reasons:

- (1) On foreign corporations, even though void as to domestic ones, because it is a condition of their doing business within the State.
- (2) On domestic corporations, because it is an amendment to their

charters, and hence an exercise of the reserve power of the State to alter and amend them.

If the contention is true, what limitation is there to the power of the Legislature? All constitutional restraints seem to be abolished by it, and corporations, foreign and domestic, are subject to the will of the Legislature. As to foreign corporations, counsel for respondents declare this. "It is not a question of power," says one of the counsel; "it is a question of will." If it is a question of will as to foreign, it is also a question of will as to domestic corporations, and the only admitted exception of its exercise is the physical taking of the property of the corporation—of a railroad corporation (to make the application to the kind we are considering), of its rails and cars. It may put such conditions on their use as it pleases, and these though they would be invalid as unconstitutional exercise of power against a natural person or a co-partnership of natural persons owning or using the same kind of property. This is a serious discrimination, and, even if the power to make it be granted, when we should come to interpret the legislative will we well might object to imply it from anything but the clearest language definitely used.

That the California Constitution had such intention can hardly be contended; that it contemplated or implied conditions upon foreign corporations or domestic ones cannot be contended. It was a regulation, not of corporations, but of railroads, no matter by whom owned or managed. This disposes of the contention, certainly as to foreign corporations. I cannot take the power to do a thing for the exercise of it and put conditions and discriminations in the Constitution which are neither expressed in it nor contemplated by it. As to domestic corporations, if anything further be necessary (and the reasoning is applicable to foreign corporations), it is found in the *Railroad Tax Cases*, 13 Fed. Rep. 722-789. It is there said that the power of amendment of the charter of corporations, or of the law under which they are formed, is not a power to withdraw them from the guaranties of the Federal Constitution. "Whatever the State may do," Mr. Justice Field, sitting as Circuit Justice, said, "even with the creations of its own will, it must do in subordination to the inhibitions of the Federal Constitution. It may confer, by its general laws, upon corporations certain capacities of doing business, and of having perpetual succession in their members. It may make its grant in these respects revocable at pleasure; it may make the grant subject to modification and impose conditions upon its use, and reserve the right to change these at will. But whatever property the corporations acquire in the exercise of the capacities conferred, they hold under the same guaranties which protect the property of individuals from spoliation. It cannot be taken for public use without compensation. It cannot be taken without due process of law, nor can it be subjected to burdens different from those laid upon the property of individuals under like circumstances. The State grants to railroad corporations formed under its laws a franchise, and over it retains control, and may withdraw or modify it. By the reservation clause it retains power only over that which it grants.

\* \* \* The reservation relates only to the contract of incorporation, which, without such reservation, would be irrevocable. It removes the impediment to legislation touching the contract. It places the corporation in the same position it would have occupied had the Supreme Court



held that charters are not contracts, and that laws repealing or altering them did not impair the obligation of contracts. The property of the corporation, acquired in the exercise of its faculties, is held independently of such reserve power, and the State can only exercise over it the control which it exercises over the property of individuals engaged in similar business."

And Judge Sawyer said, on page 777: "The Legislature, under the various guaranties of the Constitution, State and National, can only take away, limit, enlarge, or modify that which it gave. And what is given in the creative act is, simply its capacities; its legal faculties, including all such as are essential to its corporate existence; all those powers which are strictly corporate, being those powers which can only be given by legislative act; powers not possessed by natural persons or partnerships, acting in their natural, individual, or associate characters, independent of legislation. These strict corporate powers I attempted to define in *Orton's case*, 6 Sawy. 187."

The cases cited by respondent's counsel to sustain their contention are distinctly different from the case at bar. In all of them, except those especially noticed hereafter, the power exercised was the ordinary governmental and sovereign one of taxation (*Tomlinson vs. Jessop*, 15 Wall. 456; *Hamilton Gas & Light Co. vs. Hamilton*, 146 U. S. 258; *Schurtz vs. Cook*, 148 U. S. 397, 113 N. Y. 311; *Railway Co. vs. Maine*, 96 U. S. 499), or an administrative regulation of the affairs of the corporation to secure creditors and stockholders (*Sinking Fund Cases*, 99 U. S. 700), or an exercise of a right under the laws of Massachusetts to regulate the right of fishery (*Holyoke vs. Lyman*, 15 Wall. 500). In all of these cases the impediment to the exercise of the power was the charters of the respective corporations and their sanctity as contracts. It was held that there was not impairment of their obligation as contracts, because the right of amendment formed part of the contract and was of the same obligatory character.

In *Greenwood vs. Freight Company*, 105 U. S. 13, the instance of the exercise of this right was the repeal of the act of incorporation. There was no question of control over property or its uses, and what existed over either by the right of repeal of the acts of incorporation is explained in the railroad cases *supra*, and will be referred to hereafter.

In *Spring Valley Water Works vs. Schottler*, 110 U. S., the law under which the corporation plaintiff was organized provided a special commission to fix water rates. By the Constitution of the State, subsequently adopted, that power was given to the Board of Supervisors of San Francisco. It was held to be a valid exercise of the reserve power to alter or amend the law. The power abstractly to regulate rates was not involved—only by what instrumentality, whether by the Commission or by the Board of Supervisors—and the corporation contended for the Commission, because the law incorporating it was a contract and inviolable. The Court, speaking by Mr. Justice Waite, said:

"Long before the Constitution of 1879 was adopted in California, statutes had been passed in many of the States requiring water companies, gas companies, and other companies of like character to supply their customers at prices to be fixed by the municipal authorities of the locality; and, as an independent proposition, we see no reason why such a regulation is not within the scope of legislative power, unless prohibited by constitutional limitations or valid contract obligations.



Whether expedient or not is a question for the Legislature, not the courts."

As to the power of the Legislature to fix prices, the Court cited and followed *Munn vs. Illinois*, 94 U. S. 113, which at that time had not been directly modified, as it came to be afterward, but, with caution, said: "What may be done if the municipal authorities do not exercise an honest judgment, or if they fix upon a price which is manifestly unreasonable, need not now be considered, for that proposition is not presented by this record. *The objection is here, not to any improper prices fixed by the officers, but to their power to fix prices at all.*" I put the last sentence in italics, because it distinguishes the case from that at bar. In that at bar the contention is that the Railroad Commission has the power to fix any prices, or, rather, any rates, proper or improper, and that corporations must submit as a condition of their existence.

*Stone vs. Wisconsin*, 94 U. S. 181, *Ruggles vs. Illinois*, 108 U. S. 526, *Tilley vs. Savannah Ry.*, 5 Fed. 664, were cases of rates, but they all followed *Munn vs. Illinois*, and were affected by its error, to wit: that the power of regulation of rates was unlimited in the Legislature, and, hence, this being the extent of the power, it could be exercised, if not expressed in the charter of the corporation, under the reserve right of amendment. But when this power became limited, as it did become limited, first by cautious expressions, as in *Spring Valley Water Works vs. Schottler*, *supra*, and the *Railroad Commission Cases*, then by confident contrary enunciation, as in the *Chicago, Milwaukee & St. Paul Ry. Co. case*, 134 U. S. 418, constitutional limitations and all rules which direct justice in the courts were necessarily observed and enforced. Mr. Justice Waite's monitory words in the *Schottler case* have been given. In the *Commission Cases* he advanced beyond caution and came nearer to affirmation. He said, "From what has been said it is not to be inferred that this power of limitation or regulation is itself without limit. This power to regulate is not a power to destroy, and limitation is not the equivalent of confiscation. Under pretense of regulating fares and freights the State cannot require a railroad corporation to carry persons or property without reward, neither can they do that which in law amounts to a taking of private property for public use without just compensation or without due process of law."

Finally, in the *Minnesota case*, the Supreme Court definitely modified *Munn vs. Illinois* and confined the power of the regulation to that which was just and reasonable, giving to the courts the ultimate power of review, and holding that any enactment which takes away this offends the Constitution of the United States by depriving the corporation of its property without due process of law and depriving it of the equal protection of the laws.

By many decisions since, this has become the settled law, and hence we are brought to the doctrine of the *Railroad Tax Cases* and are convinced of the correctness of its soundness, that, "Whatever the State may do, even with the creations of its own will, it must do in subordination to the inhibitions of the Federal Constitution," a doctrine rational, consistent, safe, giving to property, and all interests in it, protection against an arbitrary will, and not denying or dissipating the safeguards of the Constitution by refined and metaphysical distinctions.

This disposes of what may be termed the preliminary contentions of respondents. There are others which will be considered hereafter. There

are some urged by complainant. The most extreme one it is difficult to state succinctly and make it understood. The counsel who made it concedes the power of regulation, but very guardedly defines its limits. He says it cannot be exercised to transcend the prohibitions of the Fourteenth Amendment of the Constitution, and, stating it more directly, says, claiming to quote Mr. Justice Field, in *Georgia Banking Company vs. Smith*, 128 U. S. 179-180, that its only rightful exercise is "to prevent extortion by unreasonable charges and favoritism by unjust discrimination." This, counsel says, is the fullest power the State has, either by Legislature or Commission, and the fullest power the State in reason should want or exercise. To bring into clear prominence his idea, he stated the value of a railroad to be what it could earn without interference with its rates, under what he termed the normal play of natural and economic laws, and if, in exercising this liberty, it treat all alike, then a reduction of its rates would be a taking of property without compensation, or depriving it of the equal protection of the laws. An explanation of these economic laws we need not make, but it is certain that they are not the same for a road which has no competitors as for a road which has competitors; not the same for monopoly as for competition. In the former case, what certainty would there be of a reduction of rates? That would depend upon the railroad's sense of its own interests and the public interests. This sense might or might not be an enlightened one—might or might not be a liberal one—and economic laws might, therefore, plead in vain for observance. I do not say that they would, but might, and does not experience of the disposition and conduct of men admonish that all power is at times abused? The right—abstract right—of the State, therefore, to reduce rates seems to be a necessity. Whether it should in any case be exercised or not, is another question. Does the right exist? That I think it does, I may have sufficiently indicated in considering the contentions of respondents, and it is only necessary to give my views more definiteness.

We have already seen that *Munn vs. Illinois* was the pioneer case. What it decides there is no dispute about. The controversy is over how much of it is overruled. The complainant says all of it, and that by later decisions the court has adopted and established the views of Mr. Justice Field's dissenting opinion.

In the matter with which we are now concerned I might question the correctness of counsel's interpretation of Mr. Justice Field's opinion, but I prefer to consider, though very briefly, the cases more directly.

*Munn vs. Illinois* was a case concerning the reduction of warehouse rates—not so indisputably a public interest as railroads'. It established two propositions:

(1) That of the power of the State to regulate property devoted to a public use;

(2) That the exercise of this power to settle rates of charges was a legislative prerogative, not a judicial one. That is, there was no review of them by the judiciary. What they were fixed at they could remain fixed at, even though unreasonable, and that the only relief was in the justice of the people, expressed through another Legislature.

The first proposition, as to the power of the State, has not been overruled; the second proposition, as to its right of exercise without judicial review, has been overruled, and the relations of common carriers and the State established in excellent equipoise. The power of the State

stops at injustice. The rights of a railroad stop at injustice. The State may not fix a rate unreasonably low. It may prevent a railroad from fixing one unreasonably high. If the law gives a railroad privileges, it exacts from it duties. It exacts that it serve all at reasonable charge; serve all faithfully and without favor or discrimination.

The other contentions of the complainant either deny the legality of the Commission or the legality of its action.

Under the first it is urged that the provision of the California Constitution, which makes the rates conclusively just and reasonable in all controversies, civil and criminal, is in conflict with the Fourteenth Amendment to the Constitution of the United States.

(3) Being void, and being also indissolubly blended with the provisions creating the Commission, these are also void.

(4) That no notice to the railroads is provided for.

(5) That the provisions of the Constitution apply to railroads owned by railroad corporations and companies, and not to railroads generally, and that its penalties have also the same discrimination, and hence the complainant is deprived of the equal protection of the laws.

Under the second, it is urged that two of the Commissioners (Mr. La Rue and Mr. Stanton), took such a pledge before election as to disqualify them from acting, and that Mr. La Rue was interested, because a shipper of grain, and hence a judge in his own case; and because the Board acted arbitrarily and contrary to the evidence or any evidence adduced before the Board.

It is, in effect, admitted, or, at any rate, it is established by authority, that the provision which gives conclusiveness to the rates fixed by the Commissioners is void, but it is claimed that it is clearly separable from the power to establish rates. The power, and the effect of the exercise of the power, as evidence, and the penalties which may follow from disobedience, are clearly separable, and being so, one cannot vitiate the other. In *Reagan vs. Farmers' Loan & Trust Company, supra*, similar contentions were made against a statute of the State of Texas which established a Railroad Commission, gave it power to establish rates, made them conclusive as evidence, and prescribed penalties for their disobedience. The enactments were as fully connected and dependent as the provisions of the California Constitution. Passing on the contentions, the Court said, by Mr. Justice Brewer:

"It is familiar law that one section or part of an Act may be invalid without affecting the validity of the remaining portion of the statute. Any independent provision may be thus dropped out if that which is left is fully operative as a law, unless it is evident from a consideration of all the sections that the Legislature would not have enacted that which is within, independently of that beyond its power. Applying this rule, the invalidity of these two provisions may be conceded without impairing the force of the rest of the Act. The creation of a Commission, with power to establish rules for the operation of railroads and to regulate rates, was the prime object of the legislation. This is fully accomplished whether any penalties are imposed for a violation of the rules prescribed, or whether the rates shall be conclusive or simply *prima facie* evidence of what is just and reasonable. The matters of penalty and the effect as evidence of the rates are wholly independent of the rest of the statute. Neither can it be supposed that the Legislature would not have established the Commission and given it power



over railroads without these independent matters. In other words, it is not to be presumed that the Legislature was legislating for the mere sake of imposing penalties, but the penalties and the provision, as to evidence, were simply in aid of the main purpose of the statute. They may fail, and still the great body of the statute have operative force, and the force contemplated by the Legislature in its enactment."

It is, however, further urged that the conclusive provision was the main inducement of the others, and that the latter would not have been adopted independently of the others, and to sustain this view extracts are given from the speeches of certain of the members of the Constitutional Convention. They are too long and too many to quote. It is enough to say that they do not go that far, and besides, the speakers were but a few members of a large convention, and, besides again, they can be no index of what intention the people had by their adoption of the Constitution.

The objection that the provisions of the California Constitution creating the Board of Railroad Commissioners is invalid, because they do not require notice to the railroads, is certainly doubtful as law, if it be not disputable as a correct interpretation of those provisions. As law, the objection seems to find some support in the *Minnesota case*. The case came up on writ of error to review the decision of the Supreme Court of Minnesota. That court had decided that it was the expressed intention of the statute of the State that the rates recommended and published by the Commission created by it should not simply be advisory nor merely *prima facie* equal and reasonable, but final and conclusive as to what are equal and reasonable charges. In other words, to quote from the opinion of the Supreme Court of the United States, "Although the railroad is forbidden to establish rates that are not equal and reasonable, there is no power in the courts to stay the hands of the Commission, if it chooses to establish rates that are unequal and unreasonable." It was on account of this meaning of the Act that the Supreme Court held it to conflict with the Constitution of the United States. Mr. Justice Blatchford, in comment on the provisions of the statute, says:

"No hearing is provided for, no summons or notice to the company before the Commission has found what it is to find and declared what it is to declare, no opportunity provided for the company to introduce witnesses before the Commission, in fact, nothing which has the semblance of due process of law; and although, in the present case, it appears that, prior to the decision of the Commission, the company appeared before it by its agent, and the Commission investigated the rates charged by the company for transporting milk, yet it does not appear what the character of the investigation was or how the result was arrived at."

But it is manifest that this was urged as removing an objection to the final conclusion of the court not as an essential or basic condition of itself. This conclusion was that "The question of the reasonableness of a rate of charge for transportation by a railroad company, involving as it does the element of reasonableness both as regards the company and as regards the public, is eminently a question for judicial investigation, requiring due process of law for its determination"; and, if deprived of it, the company's property is taken without due process of law and in violation of the Constitution of the United States. This



view of the case seems evident from the concluding paragraph of the opinion. Mr. Justice Blatchford said:

"In view of the opinion delivered by that court, it may be impossible for any further proceedings to be taken other than to dismiss the proceeding for a mandamus, if the court should adhere to its opinion that, under the statute, it cannot investigate judicially the reasonableness of the rates fixed by the Commission. Still, the question will be open for review."

The question could not be open for review if there was an antecedent defect in the creation of the Commission which rendered any exertion of duties invalid because the statute creating it had not provided for notice to the railroads affected by such exertion of duties. But Mr. Justice Miller, in his concurring opinion, is very direct and clear. He said:

"I do not agree that it was necessary to the validity of the action of the Commission that previous notice should have been given to all common carriers interested in the rates to be established, nor to any particular one of them, any more than it would have been necessary, which I think it is not, for the Legislature to have given such notice if it had established such rates by legislative enactment. But when the question becomes a judicial one, and the validity and justice of these rates are to be established or rejected by the judgment of a court, it is necessary that the railroad corporations interested in the fare to be considered should have notice and have a right to be heard on the questions relating to such fare, which I have pointed out as judicial questions. For the refusal of the Supreme Court of Minnesota to receive evidence on this subject, I think the case ought to be reversed on the ground that this is a denial of due process of law in a proceeding which takes the property of the company, and if this be a just construction of the statute of Minnesota it is for that reason void."

These views seem to satisfy all the purposes of the State and all the rights of the railroads. The Commission undoubtedly exercises a function which the Legislature would otherwise exercise. It should be as full with the Commission as with the Legislature, and in both subject to the same judicial investigation as we have already seen it is, and thereby giving to the railroad that protection to their rights and property which the Constitution guarantees.

The third ground urged, to wit: that the Constitution is discriminative as to railroads as they are owned or not owned by corporations or companies, is answered by the interpretation of the provisions by the Supreme Court of the State in *Moran vs. Ross*, 79 Cal. 163, in which that Court said: "In our judgment, the control of the Railroad Commission, as provided for, is not confined to corporations. It extends, by its terms, to railroad corporations and 'transportation companies.' This should be construed to extend the supervision of the Commission to all persons engaged in the business of transportation, whether as corporation, joint-stock companies, partnerships, or individuals, and so it has been construed by legislative enactment."

The legislative enactment referred to is the Act of April 15, 1880, which was passed under an enabling clause in the Constitution. Section 14 of the Act, after providing what should be meant and included by the term "transportation companies," further define the word "company" "to mean and include corporations, associations, partnerships, trustees,

agents, assignees, and individuals." This construction is binding upon this court. (*Chicago, etc., R. R. vs. Minnesota, supra.*)

As part of the argument against the validity of the State Constitution, it is said that it provides "for the fixing of conclusive rates, and rates of that character only; that the word 'reasonable' is not written in the law; that it does not appear there, either expressly or by implication." Regarding this objection as not included in those already replied to, it is only necessary to say that the direction to the Commissioners to establish rates must be understood as a direction to establish just and reasonable ones. Making the rates conclusive as evidence is a different thing from making them or directing or intending them to be made unreasonable. And the former is held void, not because the rates to which it gives conclusiveness will be unreasonable, but because they may be so, and a judicial investigation is attempted to be prevented.

The other contentions based on the interest of La Rue as a shipper of grain, and on the pledges of La Rue and Stanton before election, are of no especial consequence—the former because the grain-rate resolution was adopted by an unanimous vote, and the latter because, after all, the final inquiry must be, were the reductions resolved upon reasonable? And we are aided little in that inquiry, or into the conditions and circumstances involved in it, by a consideration of Mr. Stanton's prejudice or non-prejudice.

This brings us to the other contentions of respondents and to the merits of the controversy. They are:

(1) That (to quote the Attorney-General) "the term 'unreasonable,' as applied to rates of charges fixed by the Legislature, or a body entrusted by a State Constitution with that branch of legislation, means nothing more nor less than confiscation." In other words, if such rates produce any revenue, much or little, they are reasonable.

(2) That they (respondents) are entitled to have the grain rates considered separate from the 25% resolution; that there must be a showing as to each, not as to both indistinguishably.

(3) Even if joined, the showing is not sufficient.

(1) This is claimed to be established by authority. I do not think so. It seems to have been decided in the *Dey case*, 35th Federal. But the same learned Judge who expressed that view in the *Dey case* retracted it in the *Ames case*, 64th Federal, and it has received no judicial sanction since. This was inevitable when it came to be seen that the regulation of rates could not be an absolute legislative prerogative. When the power of judicial review was asserted and entertained, the Fourteenth Amendment to the Constitution was bound to be firmly and accurately applied. There could be no middle ground. Middle ground would satisfy neither legislative prerogative nor judicial prerogative; certainly not the judicial prerogative. That must apply justice as it is understood of men, and in its clear light it was inevitable that it would come to be seen that the Fourteenth Amendment of the Constitution would be a composition of delusive words if it forbid only the taking of the physical property, while it permitted the taking of its value—if its guaranties of the law's equal protection to all persons would be satisfied as to railroads by leaving them a microscopical profit. If so, the Pool of Tantalus would lose its force to illustrate excited and disappointed expectation when compared with the organic law of this great land. We should keep in mind that the regulation of a railroad

affects, in reality, the natural persons who own it, not the insensible legal artificiality and abstraction called a corporation. For the natural persons the protection of the Constitution is intended, and would any one say that justice is done them if their investment be allowed only an infinitesimal fraction of one per cent, while all other investments are expected to return at least legal interest, with freedom besides of unlimited advantage?

One of the counsel for respondents at the oral argument frankly admitted that if injustice was threatened, all who were in would hurry out of the ownership of railroad property. Of not a dissimilar alternative, Mr. Justice Brewer said, with strong metaphor, that the apples of Sodom were fruits of joy in comparison.

That the power of regulating rates was intended to be exerted to that effect no one will contend for—that it may not be so exerted, safeguards are needed. It is against not only what may be done, but what can be done that preventive laws are directed. And if it be said that justice may be exercised by a Legislature or a Commission, a sufficient answer is that it is a rule of our polity that the ultimate exercise of that is best committed to the courts. This may offer restraint sometimes even to good purposes, but would we not be as children, thoughtless and insensible, if we felt the restraint more than the evil it may prevent?

(2) The respondents are entitled to have the grain rates considered separately from the 25% reduction on other freights; but the showing may be good for either and hence need not distinguish. Mr. Hayne, for the respondents, puts this objection in another form. He says, granting a deficiency of revenues, it does not necessarily appear that this is the result of grain rates. They may be too high. That a determination of the effect of a reduction of them involves an examination of the validity of every other rate. "You do not get any light," the counsel says, "by taking general results, because it is quite consistent with the general result that the grain rates are nine or ten times too high, and that the others may be too low. It may be that the difficulty is in some other rate. If so, the applicant for relief ought to show it." It would seem, also, if this were so, that the respondents might show and should show it against the statement of the complainant that the rates are not discriminative; but another answer is that such a showing would be too extensive for a preliminary inquiry, and absolutely intractable by affidavit. Still another answer is that the action of the Board negatives the fact upon which it is based. It does not seem conceivable, if that fact be true, that the Board of Railroad Commissioners would have passed a resolution which, by its horizontal application, preserved and maybe intensified whatever discrimination existed between the grain rates and other rates.

(3) The Attorney-General says that he can demonstrate, beyond the possibility of a plausible explanation, that complainant has failed to make such a showing as would entitle it to the relief prayed for, even if the 8% and 25% reductions could, under any circumstances, be considered jointly. On the other hand, Mr. Herrin says that complainant is not asking for a single dollar of dividend, because existing rates and business are not sufficient to earn dividends. It only seeks revenue enough to pay interest on bonds, to pay operating expenses, and to pay taxes. Present rates, under the experience of 1894, were insufficient for such payment.

The elements of the controversy will be stated as we proceed. It



may, however, be premised here that Mr. Justice Brewer said in the *Dey case*, "Compensation implies three things: Payment of the cost of service, interest on bonds, and then some dividend." Adequate dividend, subsequent cases say. These, then, are the factors of compensation to be applied.

Complainant's bill, after a somewhat detailed statement of the amounts payable by complainant under the leases to it, gives a summary of the receipts and expenditures, which shows, as operating expenses, the rent paid to the California Pacific road, in the sum of..... \$600,000 00

If the last (3d) be good, a deficiency on the Pacific System for the year of 1894 of..... 276,262 70  
For 1895..... 1,476,176 39

In the amendment to the bill there is an exhibit of the receipts and expenditures of the California roads of the system, showing a surplus for 1894 of..... 434,497 05  
For 1895 (ending June 30), a deficit of..... 863,691 29

The Attorney-General claims that this showing is incorrect, for three reasons:

(1) Because there is included a deficit of the Oregon & California road in the sum of ..... 541,355 71

(2) Because there are included in expenditures on the various roads, for improvements and betterments, the sum of..... 654,826 81

(3) Because there is included in expenditures, as operating expenses, the rent paid to the California Pacific road, in the sum of ..... 600,000 00

If the last (3d) be good, it is conceded that the deficit on the Pacific System, including the other objected items, will amount to..... 24,131 20

If not good, the deficit will amount to..... 54,905 65

For the time being I will assume this objection to be good, and will consider the other objections.

If the deficit of the Oregon & California road is a proper expenditure of complainant, it resulted from the insufficiency of the income to pay the interest on the bonded debt. This, of course, depends upon the terms of the lease from the Oregon & California Company. It provides that the Southern Pacific Company shall pay to the Oregon & California Company, on account of the road, from the income received from it, as follows:

The cost of operating such road and incidental expenses connected therewith, and "shall apply the residue of the amount of net income and earnings of said railroads to such extent as shall be required for the purpose to the payment of the interest \* \* \* upon the now existing bonded indebtedness."

The lease also provided that "on the 1st of May of each year the Southern Pacific Company shall pay to its lessor such balance, if any, of the net income for the year ended the 1st of December preceding as shall remain in its hands after all the payments for interest \* \* \* agreed to be made are paid."

It is, however, further provided that if the net income be insufficient to pay in full such current interest for the year, it shall be optional with the Southern Pacific Company to advance or pay for account of the Oregon & California Company such deficiency. If, however, it do so, it



shall be entitled to interest thereon at 6% per annum until reimbursed and shall be entitled to pay itself out of subsequent earnings or income of the demised premises and have a lien thereon and on such income.

It is objected that the payment of the deficit was optional, and again, because the amount paid is secured upon future revenues and on the demised premises. In other words, it was not a payment in any proper sense by the Southern Pacific Company for which it could charge.

Interest on bonded debt is held by all authorities to be a proper charge upon income, and hence, if the Oregon & California Company had operated its road such interest could be claimed by it; deficiency of income to pay such interest would be a loss to the company. But that is not the test. We have already seen (and important consequences follow from it) that the Board of Railroad Commissioners dealt with the Pacific System—dealt with the Southern Pacific Company as operating that system—not any individual road, but all the roads, and hence the regulation of the Board must be tested by the revenues of all the roads, not by the revenue of one. It is not what the Oregon & California Company might show, or what the Southern Pacific Company might show, for the operation of that road alone, but what it may show as to the system. This being so, the conclusion is obvious: Was the payment of the interest a loss to the Southern Pacific Company? Clearly not. It is secured to it and is to be reimbursed to it, and is charged in the report as a “balance deficit payable by Oregon & California Railroad Company.” Clearly, again, if it had not been paid, it could not be claimed as a loss. If paid and to be reimbursed and secured, it cannot be claimed as a loss, if the debtor or security be good. I cannot assume now that the debtor or the security will not be good. It may be, of course, that it will not be good, but I can only deal with present conditions, or, at any rate, with those likely to occur within a reasonable period of time. That, under the lease, the payment of the deficit is not a charge on the Southern Pacific Company, is not only evident from its terms, but evident from the allegations of the bill.

The second ground of objection, that is, that to improvements and betterments there will have to be considered, first, the abstract legality of such a charge, and, second, the competency of it under the leases.

The abstract legality of such a charge is established by the *Reagan case*. The same contention was made there, and a deduction of the sum of \$302,085 77 was claimed to have been charged to operating expenses, whereas it was expended for “cost of road, equipment, and permanent improvements.”

Mr. Justice Brewer, commenting on the claim, said:

“Again, the sum of \$302,085 77 appears in that table, under the description ‘Cost of road, equipment, and permanent improvements, admitted to have been included in operating expenses,’ and is added to the income as though it had been improperly included in operating expenses. But before this change can be held to be proper, it is well to see what further light is thrown on the matter by other portions of the report. That states that there were no extensions of the road during that year, so that all of this sum was expended upon the road as it was. Among the items going to make up this sum of \$302,085 77 is one of \$113,212 09 for rails, and it appears from the same report that there was not a dollar expended for rails, except as included within this amount. Now, it goes without saying that in the operation of every road there is a constant

wearing out of the rails and a constant necessity for replacing old with new. The purchase of these rails may be called permanent improvements, or by any other name, but they are what is necessary for keeping the road in serviceable condition. Indeed, in another part of the report, under the head of 'Renewals of rails and ties,' is stated the number of tons of 'New rails laid' on the main line. Other items therein are for fencing, grading, bridging and culvert masonry, bridges and trestles, building, furniture, fixtures, etc. It being shown affirmatively that there were no extensions, it is obvious that these expenditures were those necessary for a proper carrying on of the business required of the company."

Substantially to the same effect is *Union Pacific Railway Company vs. United States*, 99 U. S. 492. In the latter case, the court was called upon to interpret that clause of the Act of 1862, in aid of the construction of the Union Pacific Railroad, which provided that "after said road is completed, and until said bond and interest are paid, at least 5% of the net earnings of said road shall also be applied to the payment thereof." It may be said that there were several elements in that case which are not in the case at bar, but, nevertheless, the remarks Mr. Justice Bradley makes are substantially applicable. Speaking of when a railroad is completed, he said:

"In one sense, a railroad is never completed. There is never, or hardly ever, a time when something more cannot be done, and is not done, to render the most perfect road more complete than it was before. This fact is well exemplified by the history of the early railroads of the country. At first, many of them were constructed with a flat rail, or iron bar, laid on wooden string-pieces, resulting in what was known, in former times, as snake-heads—the bars becoming loose, and curving up in such a manner as to be caught by the cars, and forced through the floors amongst the passengers. Then came the T rail, and finally the H rail, which itself passed through many successive improvements. Finally, steel rails in the place of iron rails had been adopted as the most perfect, durable, safe, and economical rails on extensive lines of road. Bridges were first made of wood, then of stone, then of stone and iron. Grades originally crossed, and, in most cases, do still cross, highways and other roads on the same level. The most improved plan is to have them, by means of bridges, pass over, or under, intersecting roads. A single track is all that is deemed necessary to begin with; but now, no railroad of any pretensions is considered perfect until it has at least a double track. Depots and station-houses are at first mere sheds, which are deemed sufficient to answer the purpose of business. These are succeeded, as the means of the company admit, by commodious station- and freight-houses, of permanent and ornamental structure. And so the process of improvement goes on; so that it is often a nice question to determine what is meant by a complete, first-class railroad."

And declaring what are proper expenditures, he further said:

"Having considered the question of receipts or earnings, the next thing in order is the expenditures which are properly chargeable against the gross earnings in order to arrive at the 'net earnings,' as this expression is to be understood within the meaning of the Act. As a general proposition, net earnings are the excess of the gross earnings over the expenditures defrayed in producing them, aside from, and exclusive of, the expenditure of capital laid out in constructing and

equipping the works themselves. It may often be difficult to draw a precise line between expenditures for construction and the ordinary expenses incident to operating and maintaining the road and works of a railroad company. Theoretically, the expenses chargeable to earnings include the general expenses of keeping up the organization of the company, and all expenses incurred in operating the works and keeping them in good condition and repair; whilst expenses chargeable to capital include those which are incurred in the original construction of the works, and in the subsequent enlargement and improvement thereof. With regard to the last-mentioned class of expenditures, however, namely, those which are incurred in enlarging and improving the works, a difference of practice prevails among railroad companies. Some charge to construction account every item of expense and every part and portion of every item which goes to make the road, or any of its appurtenances or equipments, better than they were before; whilst others charge to ordinary expense account, and against earnings, whatever is taken for these purposes from the earnings, and is not raised upon bonds or issues of stock. The latter method is deemed the most conservative and beneficial for the company, and operates as a restraint against injudicious dividends and the accumulation of a heavy indebtedness. The temptation is, to make expenses appear as small as possible, so as to have a large apparent surplus to divide. But it is not regarded as the wisest and most prudent method. The question is one of policy, which is usually left to the discretion of the directors. There is but little danger that any board will cause a very large or undue portion of their earnings to be absorbed in permanent improvements. The practice will only extend to those which may be required from time to time by the gradual increase of the company's traffic, the dispatch of business, the public accommodation, and the general permanency and completeness of the works. When any important improvement is needed, such as an additional track, or any other matter which involves a large outlay of money, the owners of the road will hardly forego the entire suspension of dividends in order to raise the requisite funds for those purposes; but will rather take the ordinary course of issuing bonds or additional stock. But for making all ordinary improvements, as well as repairs, it is better for the stockholders, and all those who are interested in the prosperity of the enterprise, that a portion of the earnings should be employed. \* \* \* We are disposed to agree, therefore, with the Judge who delivered the concurring opinion in the court below, that the twenty-seventh item of expenditure, as stated in the table of expenses in the eighteenth finding, entitled 'Expenditures for station building, shops, etc.,' is a charge that may properly be made against earnings, since, as the fact is, such expenditures were actually paid therefrom, and were not carried to capital account."

The same idea is variously illustrated in the following cases: *United States vs. Kansas Pacific R. R. Co.*, 99 U. S. 455; *St. John vs. Erie Ry. Co.*, 22 Wall. 130; *N. Y. & L. E. & W. R. R. Co. vs. Mekals*, 119 U. S. 296; *Warren vs. King*, 108 U. S. 239; *Mobile & Ohio R. R. Co. vs. State of Tenn.*, 153 U. S. 495; *Barnard vs. Vermont & Mass. R. R. Co.*, 7 Allen, 512; *Nimol vs. Paine*, 99 Mass. 106-107; *Elkins vs. Camden & Atlantic Ry. Co.*, 37 N. J. Eq. 238; *Dent vs. London Tramways*, L. R. 16 Ch. 344.

The character of the improvements, as shown by the report and charged



as operating expenses, for 1894, are the same as those described in the *Reagan* case and also in *Union Pacific R. R. vs. United States*.

The character of those claimed for 1895 are not so explicitly described, but they may fairly be presumed to be the same.

The competency of the charge under the leases depends, of course, upon their provisions, and a consideration of them will necessarily be somewhat detailed. It is provided in the lease from the Oregon & California Railroad Company that the complainant shall pay out of the earnings and income "the expenses of repairing, maintaining, improving, adding to, and keeping up the said leased railroads, with their appurtenances." Construing this provision by the light of the *Reagan* case, and other cases *supra*, the expenditures made are properly chargeable against the income, nor do I think the subsequent provisions of the lease make those expenditures a lien on the future income or on the demised premises, because they only give a lien "for advances to or for the party of the first part for additions or improvements of the demised premises, or any part thereof \* \* \* not paid by the party of the second part under the lease."

The italics are mine, and the provision indicated by them removes the expenditures under the lease from the objection made against them.

The lease of the Central Pacific Company gives more latitude to construction. It is dated the 7th day of December, 1893, but it is the final modification of a lease made on the 17th day of February, 1888, and a construction of it is helped by a consideration of the latter. In this it is recited that it is for the mutual advantage of the contracting parties; that neither (to quote its words) "is to be benefited at the expense of the other." This is put as one of the conditions of the letting, and when it ceases to be that a modification may be requested. The letting was for the period of ninety-nine years, and under it the Southern Pacific Company incurred many obligations. Among them, was one to pay a rental of \$1,200,000, to be increased if justified by the income, and that it would "keep and maintain the property hereby leased in good order, condition, and repair; operating, maintaining, and adding to and bettering the same at its own expense."

This provision made the improvements and betterments an expense to be borne by the Southern Pacific Company, and hence one to be allowed to it in estimating its gains or losses. But the lease was modified in 1893. It was also modified in 1888, but not in any of the provisions we are now concerned with. In the modification of 1893, it was recited as a reason for it that the Central Pacific Company "has been and is being benefited at the expense of the Southern Pacific Company, and the necessity has therefore arisen for a revision and change of such lease so that neither party thereto shall be benefited at the expense of the other." The modification then made was radical. Instead of the numerous obligations of the other lease, its large rental and the larger one of the modification of 1888, and the obligation to add to and better the road at its expense, the Southern Pacific Company only contracts to pay a rental of \$10,000 in installments, which was required to be applied by the Central Pacific Company to the expense of maintaining and keeping up its corporate organization.

And then it is provided that on the first day of April in each year the Southern Pacific Company shall pay to the Central Pacific Company such balance, if any, of the net earnings or income received by it for the



year ending the 31st of December, then next preceding, as shall remain in its hands after all the payments thereinbefore provided for or agreed or directed to be made. It is further provided that, if advances be made by the Southern Pacific Company for the various purposes mentioned in the lease, "to or for or upon the request of" the Central Pacific Company, "other than such as fall within the payments before provided to be made by the lessee out of the earnings or income," the Southern Pacific Company may be entitled to pay to itself with interest. And it is further provided that, after the payments are made which are stipulated for, if the balance of the net income exceed 6% of the par value of the capital stock of the Central Pacific Company, one half of such excess shall belong to the Southern Pacific Company. The payments and advances made by the Southern Pacific Company are to bear interest at 6% per annum, and are to be a lien on the demised premises and the income thereof, unless there be an agreement in writing to the contrary. It is stipulated that the leases of February, 1885, and January, 1888, be canceled, except as they relate to the operation of the demised premises prior to January 1, 1894, and also that the lease may be at any time modified or canceled.

There was another modification which changed paragraph four by making the interest on advances lawful interest instead of 6%, and by omitting the lien on the demised premises, and by providing for arbitration if the parties could not agree upon the terms of modification.

The difference between the lease as it was first made and as it became after being modified, makes clear the interpretation of the latter. Under the former the Southern Pacific Company was to pay to the Central Pacific Company a rental of \$1,200,000, subject to be increased, if the revenue justified, to a sum not exceeding \$2,400,000. Under the latter a rental of \$10,000 was to be paid, which was to be applied to a special purpose. Under the former the Southern Pacific Company was to keep, maintain, repair, add to, and better the same at its own expense, pay taxes and all other charges (nearly), and the income of the road was to be its. Under the latter the Southern Pacific Company is to operate the railroad branches and leased lines and apply the earnings and income derived therefrom to paying all operating expenses thereof, and the incidental expenses connected therewith, including the sums payable for rentals of leased lines, and according to their lawful priorities, to the payment of the current interest and sinking-fund contributions, or other payments from time to time becoming due and payable from said Central Pacific Railroad Company, whether to the United States of America, or to bondholders or others, during the existence of this lease, and pay the balance of the income to the Central Pacific Company.

It is clear, therefore, that if the railroad was added to or bettered it was to be out of the income which the Central Pacific Company was entitled, and which would, if not so expended, be paid to it. It is true that the lease provides for the contingency of the payment of such expense by the Southern Pacific Company, but it also provides for its repayment, so that it is not, in any case, a deduction from its revenue. If it be said that the *Reagan case* makes such expenses proper as operating expenses, the answer is, it was competent for the parties to stipulate otherwise, and now to hold it a charge on the Southern Pacific Company would be to restore the liability of the lease as it stood in 1888, and

which was altered as far as omissions and explicit enumeration could alter it. Hence, it follows that the item of \$111,786 71, for betterments and additions to the Central Pacific Company, should not be allowed as an expenditure of the Southern Pacific Company.

Under the lease of the California Pacific road, the Southern Pacific Company is required to "better the same at its own expense." The expenditure, therefore, was by it made, and in its report it was charged to itself. The effect is not altered by the fact that at the end of fifty years the company is to receive the then cash value of the additions and betterments made during the term of those which the report shows were made, and it would be hard guessing to say what traces of them would be left in fifty years.

The lease of the Northern Railway Company provides that additions and betterments are "a charge to the said lessor, and the settlement therefor shall be made annually." They, therefore, should not be allowed to the Southern Pacific Company.

The lease of the Northern California Railroad provides that the Southern Pacific Company shall "add to and better the same during the term." This expenditure, therefore, is a proper charge of the Southern Pacific Company.

The lease of the South Pacific Coast Railroad Company is too long to quote. It is said by counsel for respondents that it "is a virtual conveyance of the property for the term (fifty-five years) without any recompense to the lessor other than the payment of its annual liabilities and the guaranty of its bonded indebtedness." Granting this is so, it yet devolves upon the Southern Pacific Company to maintain the road, and the making of such improvements, as have already been described, was a proper expenditure by it, hence a proper item of charge to be made by it.

In the omnibus lease, so called, in which the Southern Pacific Company (of California, Arizona, and New Mexico, respectively) lease to complainant, there is this provision:

"Third—The betterments and additions to said leased properties shall be made by the said Southern Pacific Company, and settlement therefor made annually at the same time that payment is made for the net profits, as herein provided; and each of said railroad companies shall be charged respectively with the amount of payments made for betterments and additions to the property owned by it."

This makes the betterments and improvements an expenditure of the several companies, not of the Southern Pacific Company, and, therefore, not to be allowed to it.

The remaining objection is that made to the rental of \$600,000 to be paid to the California Pacific road.

There was a somewhat confusing concession made as to this item. Including that item, it was said that the net deficit on that road was \$54,905 65, shown by the report. But it was said, to put the system on a basis of receipts and expenditures, it was improper to include the whole of it, but only the difference between the amount and certain fixed charges, amounting to \$347,868 50; that is, \$252,131 50.

But it is not very clear why the fixed charges should be charged and the rent not charged, or why the former should be deducted from the latter. As we have seen, and shall see, it is the expenditures of the Southern Pacific Company which we can only consider. Was the rent

or were the fixed charges such an expenditure? By the terms of the lease there was to be paid by the Southern Pacific Company to the California Pacific Company a rental of \$600,000 per annum, and it is provided that "it will, during said term, keep and maintain said property in good order, condition, and repair, and operate, add to, and better the same at its own expense, and will pay all taxes legally assessed against or levied thereon." The rent, therefore, is as much an annual expenditure as the taxes and betterments are, and why, then, should it not be allowed, or why should something be allowed out of it or instead of it which is not an expenditure to the Southern Pacific Company? The objection to allowing the rental is stated by one of the counsel to be that any rent could be charged or successive lettings be made with successive rentals, and all with the same propriety and legality be charged. Whether this would be done is improbable; that it could be done legally would depend upon good faith and the relation and proportion of the rent to the property. I see, therefore, no objection to this charge of \$600,000 rental. It is an annual expenditure of the Southern Pacific Company, to be annually reimbursed to it from the income of the road with other expenditures. The deficit on that road, therefore, can be regarded, if the other charges are correct, to be \$54,905 65.

The total amount to be deducted from the expenditures of the Southern Pacific Company, on account of betterments and improvements, is as follows:

Central Pacific Company .....	\$111,786 71
Northern Railway Company .....	21,727 35
Southern Pacific of California .....	228,756 68
Southern Pacific of Arizona .....	27,571 59
Southern Pacific of New Mexico .....	178,766 32
	<hr/>
	\$568,608 65
Adding to this the deficit on the Oregon & California road, to wit .....	541,355 71
	<hr/>
Makes a total of .....	\$1,109,964 36
Deducting from this .....	54,905 65
	<hr/>
It leaves, as a surplus to the system, for 1894 .....	\$1,055,058 71

As to the year 1895, the bill alleges as follows:

"That for the first six months of the current year, to wit: from the 1st day of January to the 30th day of June thereof, which is the latest time to which your Orator is able to bring down its statistics, the total receipts and expenditures of your Orator in the operation of said Pacific System of railroads were as follows, namely:

<i>Receipts.</i>	
Gross earnings from operations .....	\$14,727,319 96
Interest and other net income .....	64,166 87
Rentals from terminals and other property .....	44,638 94
	<hr/>
	\$14,836,125 77



*Expenditures.*

Operating expenses, renewals, and improvements to equipment and roadways .....	\$10,738,982 95
Taxes .....	497,040 00
Rentals for railroads, terminals, bridges, and other property...	453,141 41
Interest on bonds .....	4,209,804 47
Sinking-fund payments on mortgages of Central Pacific Railroad Company .....	113,333 33
Payments to United States for Central Pacific Railroad Company .....	300,000 00
	<hr/>
	\$16,312,302 16

thereby leaving a deficiency between the receipts and expenditures of your Orator for said period of \$1,476,176 39."

It is objected by respondents that by this showing 1895 cannot be judged, because the difference between receipts and expenditures for operating expenses is greater in the last six months of the year. The percentage of increase in each is given by the Attorney-General, and admitted by counsel for complainant, to be 11% for receipts and 3% for operating expenses.

Assuming this increase, the first and last half of 1895 would compare as follows; including in operating expenses improvements and betterments and excluding fixed charges, such as interest, taxes, and the like:

Receipts from operations for the first half, as per bill .....	\$14,727,319 93
Operating expenses .....	10,738,982 95
11% increase of receipts from operations, second half of year...	1,620,005 20
3% increase of expenses .....	322,169 49

These amounts added to those of the bill give us receipts and expenses for the last half of the year as follows:

Receipts .....	\$16,347,325 16
Expenses .....	11,061,152 44

The total receipts for the year from operations, then, would be \$31,074,645 12; operating expenses, \$21,801,135 89.

To earnings from operations must be added receipts from other sources. These are stated in the bill to be, for the first half of the year, as follows:

Interest, and other net income .....	\$64,166 87
Rentals from terminals, and other property .....	44,638 94
	<hr/>
Total .....	\$108,805 81

Assuming that the same amounts would be received from the same sources, we would have as the amount to be added to earnings, \$217,611 62.

To expenses must be added the expenditures for other purposes than operation. These are stated in the bill to be as follows:

Taxes .....	\$497,040 00
Rentals for railroads, terminals, bridges, and other property...	453,141 41
Interest on bonds .....	4,209,804 47
Sinking-fund payments on mortgages of Central Pacific Railroad Company .....	113,333 33
Payments to the United States for Central Pacific Railroad Company .....	300,000 00
	<hr/>
Total .....	\$5,573,319 21



Assuming that there must be a like expenditure for like purposes for the second half of the year, and the total expenditures would be \$11,146,638 42.

Making these additions, respectively, to earnings from operation and expense of operation, and the receipts and expenditures for 1895 would be as follows:

Receipts.....	\$31,294,256 74
Expenses.....	32,949,774 31

Making a deficit of \$1,655,517 57.

In this computation there is allowed as an expenditure the improvements and betterments, and also, it may be assumed, a payment of interest on the bonded debt of the Oregon & California road. If these may be assumed to be the same as in 1894 (the betterments were probably less—the deficit on account of the payment of interest was probably more) the following deduction from expenditures should be made:

For improvements and betterments.....	\$568,608 65
Oregon & California deficit.....	541,355 71
Total .....	\$1,109,964 36

This would make the true deficit for 1895 on the Pacific System, \$545,553 21.

On the argument, complainant's counsel claimed items of expenditure for 1894, not shown by the bill, but claimed to be shown by the report, as per the following table:

	S. P. of Cal.	C. P. R. R.	Nor. Ry.
Land Department expenses .....	\$44,716 35		
Corporation expenses .....	29,523 34	\$43,263 83	
Taxes on land .....	13,186 57	17,510 98	
Back taxes .....	218,384 20	220,612 29	\$20,205 32
Totals .....	\$305,810 46	\$281,387 10	\$20,205 32
Less miscellaneous receipts, etc. (p. 117) .....		64,069 90	(This for whole road.)
		\$217,317 20	

*Summary.*

S. P. of Cal. ....	\$305,810 46
C. P. R. R. ....	217,317 20
Nor. Ry. ....	20,205 32
Total .....	\$543,332 98

For 1895 they claim back taxes, payable under a late decision of the Supreme Court, as follows:

Central Pacific Railroad .....	\$198,161 18
Southern Pacific of California .....	166,904 81
	\$365,065 99

It is seriously disputable whether land-office expenses or taxes on lands are a proper expenditure. If so, land-department revenues should be a proper receipt, and if they be appropriated to a particular purpose it should only be the net revenues after the expenses of sale. Taxes on

any year are, undoubtedly, a proper charge against that year, but it is very doubtful if the accumulation of many years can be charged against a particular one. However, it is not necessary now to decisively pass on these points.

The bill alleges: "That the earnings and expenses of said railroads entirely within the State of California, received and paid by complainant during the six months ending June 30, 1895, were as follows, to wit:

<i>Receipts.</i>	
Gross earnings from operations .....	\$9,785,539 99
Interest and other net income .....	102,432 89
Rentals from terminals and other property .....	44,638 94
	<hr/>
	\$9,932,611 82
<i>Expenditures.</i>	
Operating expenses, renewals, and improvements to equipment and roadway .....	\$7,137,853 49
Taxes .....	334,572 68
Rentals for railroads, terminals, bridges, and other property .....	398,447 39
Interest on bonds .....	2,742,929 55
Sinking-fund payments on mortgage of C. P. R. R. Company .....	92,500 00
Payments to United States for C. P. R. R. Company .....	90,000 00
	<hr/>
	\$10,796,303 11

thereby leaving a deficiency between the receipts and expenditures of your Orator, upon said lines for said period of six months, ending June 30, 1895, of \$863,691 29."

If we make the same percentage of increase to ascertain the receipts and expenses of the last half of the year, as we did for the Pacific System, the result will be as follows:

<i>Receipts.</i>	
Earnings from operations first half of year .....	\$9,785,539 99
Second half .....	10,861,409 39
From other sources .....	294,143 66
	<hr/>
Total .....	\$20,941,093 04
<i>Expenditures.</i>	
Operating expenses, renewals, and improvements to equipment and roadbed, first half of year .....	\$7,137,853 49
For second half of year .....	7,351,989 09
Other expenses .....	7,316,899 24
	<hr/>
Total .....	\$21,806,741 82

Making a deficit of \$865,648 78.

From this, improvements and betterments must be deducted, and, assuming these to be the same as on the California roads in 1894, but which are probably less, they amount as follows, omitting those on the Central Pacific Railway Company:

S. P. R. R. Co. of California .....	\$228,756 68
Northern Railway Company .....	21,727 35
	<hr/>
Total .....	\$250,484 03

The expenditure for betterments and improvements on the Central Pacific Railroad Company were \$111,786 71; but all of this cannot be assigned to California.

The road is 1,359.05 miles long, of which 757.09 miles are in California; so, disregarding fractions of miles, the amount of the expenditure

to be assigned to California is \$62,268 24, making the total amount to be deducted for betterments and improvements, \$312,752 27, which makes the deficit for 1895 from the operation of the road entirely in California, \$552,896 51.

In this computation is not included land-department expenses, taxes on land, back taxes, or taxes on franchises held legal by the Supreme Court.

From this showing it is perfectly evident that there should be no reduction of rates of the Southern Pacific Company, either regarding the Pacific System or the California roads, unless its business increase. Is there a prospect of that so near that the Court will be justified in dissolving or withholding its injunction against the new rates?

It is alleged in the bill that when the rates in California were established by complainant they "were no more than sufficient to enable your Orator to operate said railroads as aforesaid, and so remained down to the commencement of the year 1894. That in said year an unusual depression in business occurred, and the freight and passengers offered to your Orator for transportation over said railroads were so reduced in quantity and number that your Orator was unable, from the income derived therefrom, at the rates aforesaid, to pay the charges, costs, and expenses necessary for the conduct of its business and the security of its property, as hereinbefore set forth. That said business depression has continued to the present time, and there is no indication that it will be relieved, or the volume of freight and passenger traffic be increased, during the present or the next ensuing year; and your Orator is informed and believes, and therefore avers, that said business depression will not be relieved, or such freight and passenger traffic be increased, during the present or the next ensuing year."

These allegations of the depression of business and the possibilities of its continuance were attempted to be supported or denied by the respective parties by affidavits, necessarily more or less speculative and conjectural, and the power of the Court to take judicial notice of it and make special applications of it was asserted or denied. But there need be no conjecture, nor need the Court resort to any but the ordinary methods of proof. The business of the complainant has certainly decreased, as is apparent from the evidence. How 1894 compared with 1893, I do not know; how 1894 compared with 1895 has been shown, and the difference is easily understood and accounted for. It could have no other cause but a depression in business affecting the market and transportation of all articles.

The depression existed when the bill in this case was filed, to wit: October 14, 1895, and there has been nothing offered to show a change. I may not assume one, even from the sources of judicial notice so definite as to time or amount as to determine a judicial view or action. But this is not seriously important. The regulation of the rates on classes of freight other than grain does not now embarrass our consideration. Before final action shall be determined or taken on them by the Board of Commissioners, before they shall be expressed in a schedule, this case can be tried. Before any considerable movement in grain it can be tried, and the conclusions from this preliminary showing be confirmed or refuted and a final injunction be granted or denied. I cannot refrain from saying, to that opportunity and time the parties to this suit should eagerly look and eagerly prepare. Great problems are awaiting solution,

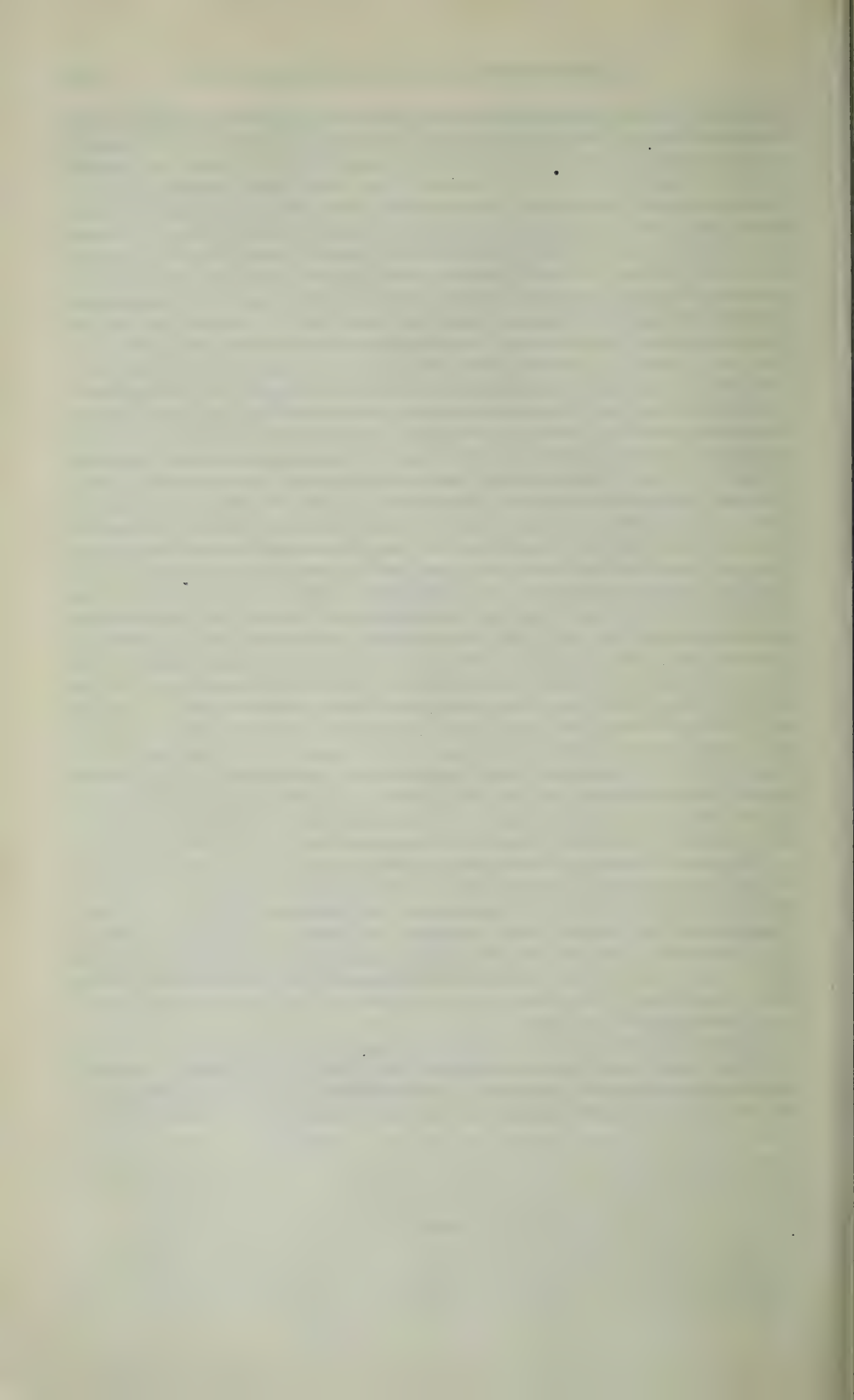


which will receive their solution, or commence to receive their solution, then, and by it. Then and by it will be shown whether that allegation of the complaint be true "that the rates now in force upon the several railroads operated by it as aforesaid have been fixed according to circumstances and conditions surrounding the traffic, and with a careful regard for the financial, commercial, and competitive conditions which enter into, affect, or control the making and relative adjustment of rates and classifications and commodities in the territory traversed by said railroads, and are equitable and fair to the patrons of said railroads, and in many cases are now fixed at the actual cost of transportation, by reason of competition with other carriers by railroad and water." Or that other averment of respondents be true, that "affiant is informed and believes, and the history of the complainant corporation in this State, with which he is familiar, confirms him in such belief, and he therefore avers that in many cases the rate of transportation is fixed at about the actual cost of such transportation at points where it is the interest and object of complainant to crush out opposition and destroy the property of competing common carriers; and that large expenditures of money have been made which were unwarranted and uncalled for by the commercial conditions existing at the present time, or in the near future, but that such expenditures were made and large properties created for the purpose of destroying competition and destroying the property interests of others who enter into competition as common carriers, and the discriminating rates are made in favor of persons and places which approximate the cost of transportation with the view to serve the ends and objects of this complainant in the creation of a monopoly, and the losses entailed by such reduction of rates and discrimination and creation of property are unjustly and unreasonably fixed upon charges of freights and rates in other portions of the State, that the revenue of this complainant corporation may be maintained without regard to the true interests of commerce, and the rights of the public, or the justness or reasonableness of the rates of charges for the transportation of freight within the State of California."

The view I have taken of the showing made by the complainant makes it unnecessary to consider that made by the United States. In the latter there are elements which are not in the former, and to give them proper attention would delay decision too long. Besides, the right of the Government to intervene was again challenged by respondents, and with such strength of objection (although supported with ability) as to justify a review of its allowance, but which I think is better postponed to a later stage of the case.

The order of the Court, therefore, is, that that part of the order staying the execution of the resolution of the Board of Railroad Commissioners, reducing rates on grain 8%, be continued until the further order of the Court; that the balance of the restraining order be dissolved.





REPORT  
OF THE  
COMMISSIONER OF PUBLIC WORKS  
TO THE  
GOVERNOR OF CALIFORNIA.

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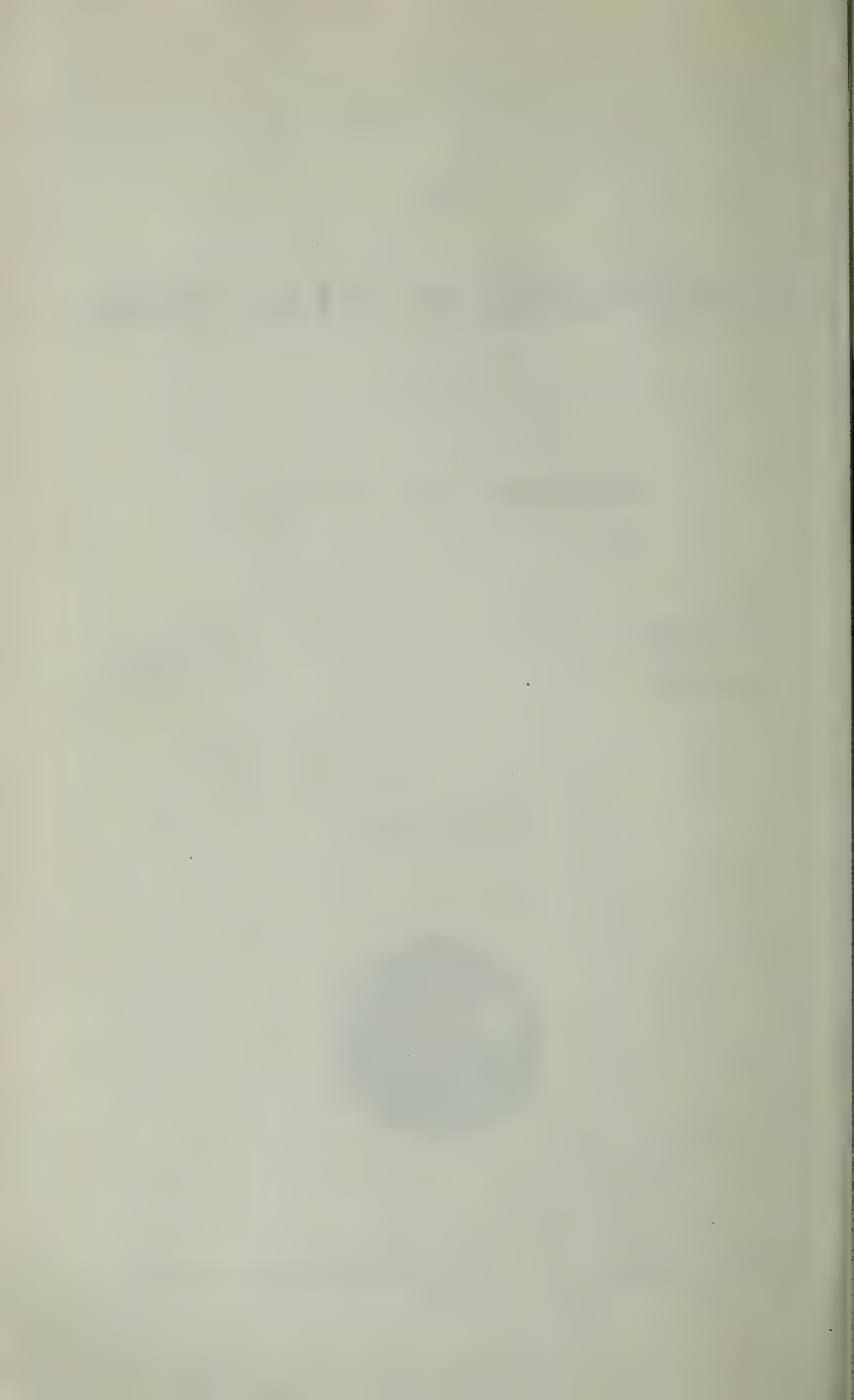
ED. E. LEAKE,	- - - - -	COMMISSIONER.
J. R. PRICE,	- - - - -	CHIEF ENGINEER.
M. A. NURSE,	- - - - -	ASSISTANT.

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1895—1896.



SACRAMENTO:  
A. J. JOHNSTON, : : : : SUPERINTENDENT STATE PRINTING.  
1896.



## REPORT OF COMMISSIONER OF PUBLIC WORKS.

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SACRAMENTO, November 16, 1896.

HON. JAMES H. BUDD, *Governor of the State of California*:

SIR: On April 22, 1895, I assumed the duties of the office of Commissioner of Public Works, by virtue of an appointment made by you.

Organization of the department was effected by the appointment of Hon. Judson C. Brusie, Secretary; J. R. Price, Chief Engineer; M. A. Nurse, Assistant Engineer.

The Engineers were directed to make a preliminary examination of the San Joaquin and Sacramento rivers, with a view of ascertaining their exact condition, before beginning the formulation of any plan for drainage and reclamation.

The work of my predecessor, the Hon. A. H. Rose, in this direction, was confined almost exclusively to an examination of the Sacramento River, and, upon investigation of the plans outlined by him, it was deemed advisable to continue these examinations upon the same line until the work is completed.

The result of such further investigation is found in a partial report on the condition of the Sacramento River, submitted to you on January 31, 1896, and an exhaustive and final report by the Chief Engineer and Assistant, dated November 15, 1896.

My predecessor recommended the formulation of a plan of drainage and reclamation for the San Joaquin Valley, but no data was found in this office concerning the condition of the San Joaquin River, except that contained in a report made by State Engineer Hall, in 1878. The inevitable changed conditions and lack of detail in the field-notes convinced the Engineer that before any plan can be formulated for the effective drainage and reclamation of the San Joaquin Valley, it will be necessary to re-survey the San Joaquin River and its tributaries within the area of overflowed lands.

For the purpose of extending this work to the San Joaquin Valley, my predecessor recommended the appropriation of \$50,000. The appropriation actually made for all purposes was only \$10,000. This sum was wholly inadequate to meet the expense necessary to be incurred in making a thorough examination. The investigation, therefore, was of a preliminary character, and consisted in the establishment of gauging



stations, corrections of extensive lines of levels, and measurement of the flow of flood-waters during the spring of 1895.

Your attention is respectfully called to the fact, heretofore mentioned, that the State is in possession of no data concerning the condition of the San Joaquin River, of a later date than 1878. This data is of no service unless the work of State Engineer Hall be taken up and completed to the present date. This subject is discussed at greater length in the report of the Engineer.

In order to complete this work and collect the data necessary before a plan of drainage and reclamation can be devised, and continue the investigation of both the Sacramento and San Joaquin rivers, the Engineers estimate that it will require an appropriation of \$25,000.

In the months of June and July, 1895, in compliance with your request, based upon an application received from the City Trustees of Petaluma, the Engineers of this office made a complete survey of all the country affected by the flood-waters of Petaluma Creek and tributary streams. As a result of this survey, it was determined that a plan for practical and substantial relief, at a reasonable cost, should be devised. Two plans were submitted, accompanied by an elaborate report and maps and drawings prepared with great care and accuracy. A full report of these operations was made to you under date of December 14, 1895.

On the 26th of March, 1896, the State Anti-Debris Association addressed a communication to you asking that you order an investigation, through this office, as to whether the building of dams, as proposed by measures then pending in Congress, would result in improvement or injury to the river. The communication was referred to me, with the request that a careful and impartial investigation be made and a report submitted to you as speedily as possible.

With a view of complying with your directions as far as practicable, Chief Engineer Price, Assistant M. A. Nurse, and myself made an examination of Yuba River from Marysville to Smartsville, directing special attention to the site of the proposed dam at Daguerre Point. All the diligence, care, and thoroughness possible under the circumstances were exercised, but it was impossible to furnish the information in the allotted time, and congressional action on the measure was taken before the result of the investigation could be compiled and submitted.

In July, 1896, the Trustees of the Home for the Care and Training of Feeble-Minded Children of the State of California called your attention to the inadequate supply of water at that institution, and requested you to direct this office to make an investigation as to the possibility of developing a supply adequate for domestic purposes, protection against fire, and the establishment of an electric plant of sufficient capacity to furnish light and power for the institution. In accordance with your direction, the Engineers immediately began a survey and examination,

resulting in the development of sufficient water for domestic and fire purposes. Under the advice of this office, the old water system has been abandoned, and a new one is now in course of construction. The Engineers also report that, by the concentration of several springs and the construction of a storage reservoir, a supply of water can be collected that will be adequate for the establishment of an electric plant that will meet all the requirements of the Home, for power and light.

Under date of October 14, 1896, a communication from the Secretary of the Board of Trustees of the Mendocino Asylum has been received at this office, in which it is stated that the Trustees of that institution desire a survey for the purpose of ascertaining whether or not sufficient water-power can be developed for the construction of an electric light plant, and requesting that such survey be made as soon as practicable. The Trustees were notified that the application should be made to you, and upon your direction this office would immediately begin the work. No reply to this communication has, as yet, been received.

The biennial report of the Engineers, under date of November 15, 1896, is submitted herewith. The conclusions reached by them are the result of patient investigation and careful study of the question, and after consultation with some of the most eminent engineers in the State.

I respectfully call your attention to the recommendations made and suggestions offered in that report. They deal with problems of vital interest, the correct solution of which is essential to insure the reclamation and development of a vast area of country, the prosperity of a great number of people, and the maintenance of the navigability of the great waterways of California.

I especially urge you to consider that portion of the report which expresses the opinion that no efficient plan of drainage and reclamation can be formulated until a permanent system of river improvement has been adopted and put in operation, either under State or National supervision.

In the work of promoting river improvement, and drainage and reclamation, it is necessary that there should be the fullest coöperation of State and National authorities.

In the construction of the easements and the levee system recommended by the Engineers, the expenses should be borne by the beneficiaries, and the work should be performed under the direction of State authority. In the light of the report of the Engineers, I consider the Newtown shoals a menace to the navigability of the Sacramento River.

It therefore seems to me to be the duty of the General Government to remove those obstructions as speedily as possible. I recommend such executive or legislative action as will bring this matter to the attention of the Government engineers, and in the event that the proposition is

considered unfavorably, I believe it to be the duty of the Legislature to adopt such measures as will afford the necessary relief.

In addition to the saving to institutions maintained by the State, the work of this Commission has been a great service to members of Congress, in their efforts to procure appropriations and other legislation necessary to inaugurate a successful scheme of river improvement. It furnished them with information they could get nowhere else.

I refer you to a speech made by Hon. Grove L. Johnson on June 23, 1896, in which he credited our report of January 31st with being of more service to him than any other agency in securing an amendment to the River and Harbor Bill, providing for a Board of Inquiry in reference to the condition of the Sacramento and Feather rivers. In speaking of this Board, Mr. Johnson said:

"It marks the commencement of a new work. It marks the commencement of something that we all must take an interest in, because we must see that Board when appointed, and when they come here we must show them every courtesy, and we must take care—and I want to weigh my words carefully now—we want to take care that they start, as it were, with a clean slate; that they do not imbibe any of the reports that have been made in the past year by any engineer in reference to the river work. I have great respect for engineers, great respect, especially for Government engineers; but when the engineer reports that the Sacramento River is in splendid condition between here and San Francisco, I am inclined to the belief that I do not know anything about engineering, or else he don't, or else there is something wrong somewhere; and, therefore, I say we want to be careful that this Board of Engineers, when it comes here, is met by the Board of Trade—met by Mr. Price, the State Engineer.

"And, by the way, I want to say right here, that I received a great deal of benefit from Mr. Price. He published in the 'Record-Union' some articles in reference to the condition of the river, and sent them to me, and I used them with force and effect in showing the necessity of doing work for the Sacramento River."

Having carefully considered the various reports submitted to you, I feel justified in concluding that the Commission has accomplished all that could reasonably be expected with the limited funds at its disposal.

The data collected and published make a valuable record that should be carefully preserved for reference and future use in the consideration of river improvement and reclamation problems.

In order to be at all times useful and reliable it is absolutely necessary that additional data from time to time should be collected and added thereto, thus preserving a complete record of all flood periods and all changes in the condition of the river.

Respectfully submitted.

ED. E. LEAKE,  
Commissioner of Public Works.

## REPORT OF SECRETARY.

SACRAMENTO, November 1, 1896.

HON. ED. E. LEAKE, *Commissioner of Public Works*:

SIR: I submit the following as a correct statement of the expenditures of your office, from March 1, 1895, to November 1, 1896:

Amount left over from appropriation approved March 23, 1893...	\$2,156 58
Salary Commissioner, March to July 1, 1895, and Engineers, Secretary, and expenses, March to July 1, 1895 .....	2,156 58
<hr/>	
Appropriations approved March 26 and March 28, 1895—	
Salary Commissioner.....	\$5,333 33
Salary Attorney and Secretary.....	2,400 00
Salary Chief Engineer.....	2,800 00
Salary Assistant Engineer.....	2,400 00
Janitor.....	160 00
Expenses (including per diem for Assistants in field work, draughtsman, gauging, traveling expenses Commission, and surveying corps, office expenses, and miscellaneous)...	3,840 77
Total.....	\$16,934 10
Unexpended balance, November 1, 1896 .....	2,732 56

Respectfully,

JUDSON BRUSIE,  
Attorney and Secretary.



## REPORT OF ENGINEERS.

SACRAMENTO, November 15, 1896.

HON. E. E. LEAKE, *Commissioner of Public Works, Sacramento, Cal.:*

DEAR SIR: On April 22, 1895, we were employed by you to act as Engineers to your Commission. The various duties that have devolved upon us, in such capacity, will be set forth in detail, by an examination of the reports already made, and by a careful consideration of the report herewith handed to you.

The subjects that have been considered by us, in our official capacity, may be enumerated as follows:

1. Gauging and measuring flood-flow of the Sacramento River;
2. Gauging and measuring flood-flow of the San Joaquin River;
3. Survey and recommendation of plan for drainage of flood-waters of Petaluma Creek and tributary streams;
4. By special instruction, the devising of plan for water-supply of the Home for the Care and Training of Feeble-Minded Children of the State of California;
5. A report upon a plan for the improvement of the drainage capacity of the Sacramento River, with an ultimate purpose of reclaiming the swamp and overflowed lands of the Sacramento Valley;
6. The results of our investigations on the San Joaquin River.

We have prepared a very elaborate map of the San Joaquin Valley, covering the section of said valley affected by floods, but as we will be unable to make a final report upon this river we have not deemed it necessary to print the same.

The map, together with all books containing field-notes of our work, will be found in your office properly indexed and numbered.

We now submit our biennial report, trusting that something may be done to relieve the want and distress of the people who, fortunately or unfortunately, possess swamp and overflowed lands.

Very respectfully,

J. R. PRICE,  
Chief Engineer.  
M. A. NURSE,  
Assistant.

## THE SACRAMENTO RIVER.

The question as to what is the best plan of relief for the Sacramento River, or whether any relief is possible, that will alleviate the present condition of said river, has long been discussed, and ably so, by the best engineering skill on the Pacific Coast.

Many remedies have been suggested, but none have ever been put into effect. We therefore preface our discussion of this subject with the admonition that it is time some plan of action should be adopted, and said plan put into full force and effect.

The interests involved demand immediate relief. The devastation of the most extensive fields of resource and production within the boundaries of the great State of California are not only threatened with, but are now suffering from, the present policy of inactivity. It must be understood that the engineer can only direct; it is not in his power to consummate any plan without the coöperation of the interests involved. It will be our province to discuss, in as able a manner as our humble judgments will direct, the plan of river improvement we shall regard as essential in the premises.

If this plan is shown to be the best and only relief that should be adopted, we shall ask the coöperation of those interested in the matter, to give us all possible assistance, in order that the work may be done.

## THE SACRAMENTO VALLEY.

The Sacramento Valley requires no description, save to say that, from the Cosumnes and Mokelumne rivers, it extends northward to Iron Cañon, a distance of 140 miles, comprising 4,252 square miles of area, with a navigable river 260 miles in length, offering an open highway to one of the most productive portions of the State of California.

Within the boundaries of this great valley we find no less than 1,700 square miles of the richest land in the world, subject to occasional overflow and periodical flooding. Over one million acres of land, capable of sustaining an empire within itself, whose climate is particularly adapted to deciduous and citrus fruits, demand a better plan of reclamation. Guarded from blizzards and hurricanes by the Coast Range on the west, and the Sierra Nevada Mountains on the east and north, this land awaits only the touch of energy and enterprise to become the Italy of America. It is not to be presumed that the reclamation of this vast tract of land can be accomplished in one day, or one year, but certainly it is reasonable to suppose that a policy of improvement would be far preferable to one of destruction, and we can only hope to improve by changing the direction of the energies now at work from a policy of ultimate ruin to one of continual and permanent relief.

In the year 1878, the State of California, under the direction of the State Engineer, Wm. Ham. Hall, caused a survey of the Sacramento River to be made, and in conjunction with this survey and the surveys of the Department of Engineering, U. S. A., we are enabled to arrive at some very important facts.

The survey of Mr. Hall located certain points on the river from Collinsville up stream, called stations, as shown on the profile included in this report. Station 30 is found about opposite Collinsville. Mean low tide of Suisun Bay was established by a series of observations at Black Diamond, in Contra Costa County, and the elevation of mean low tide thus determined was assumed as the datum plane from which all elevations on the Sacramento River have been established. Bench marks have been established from accurate lines of levels, at various points on the Sacramento as well as the San Joaquin River. All gauges have been adjusted to this datum; hence all elevations, either of high or low water, refer to the one datum, and that is, mean low tide, Suisun Bay.

Permit us to say here that the work done by Mr. Hall and his able corps of assistants has proven to be invaluable, so far as the study of river problems is concerned. It laid the foundation for all future observations, and it is only by the careful study of the question that we can arrive at any definite conclusions.

By the aid of the work of Mr. Hall, we were able to establish water-gauges at various points on the river, and thus by a system of simultaneous observations have determined the slope of the flood-wave as it passes down the Sacramento Valley. The profile and plat accompanying this report will show the location of the stations referred to, and the figures and lines in the profile show the elevations of flood-waters of various years. The great question to be solved is, how to find a sufficient escape-way for the flood-waters of the Sacramento Valley? It has been suggested by many persons that an artificial channel through the Montezuma Hills will be the very best escape-way. This question we will discuss at the proper time, but let us now consider the question of improving the lower Sacramento River, with a view to making it the main escape-way.

#### THE LOWER SACRAMENTO.

The particular portion of the river now under discussion may be regarded as the tidal portion of the Sacramento, but the more important section, being that portion of the river shown on profile and plat hereto attached. By an inspection of the profile just named, we observe the very light grade of high-water or flood line from Collinsville to Toland's Landing, and even farther up stream, as at a point known as Station 153, just below Wood Island.

At Station 153, we find from a careful investigation of the bed of the



stream that the cross-sectional area below the line of low tide in Suisun Bay is about 22,560 square feet; that the cross-sectional area of the river at this point, during flood period, is about 32,345 square feet; making a difference of 9,785 square feet between low water in Suisun Bay and high water in flood time.

If we now pass on to Station 185 on the profile, at the head of Wood Island, we find the cross-sectional area of the river at this point to be 13,760 square feet below low tide, and 37,000 square feet at flood time. The difference in cross-section between low water in Suisun Bay and flood water is therefore, at this point, 23,240 square feet.

It is therefore evident that the flood-waters must raise above the low-tide line at the upper station, so as to produce 13,455 square feet in area more than at the lower station, in order that the river may carry the same amount of water.

If we will now examine the profile here presented, we see at one glance the cause of this great change in a distance of about 3 miles. The river bottom has been elevated or filled up. The plan of the shore line indicates an abnormal width at the upper station of 2,900 feet, whereas the width at the lower station is 950 feet. We see, as it were, a mountain rising up in the bed of the river, a valley on either side, but no other pass than over this formidable mountain.

Let us now discuss the probable results of the removal of this mountain.

We will first assume that the water slope in flood time shall remain as it was on February 1, 1896, when the gauge at Rio Vista registered 12 feet 3 inches; the gauge at Collinsville registered 8 feet, and the gauge at Ryer Island pump-plant registered 14 feet 10 inches.

The elevation of high-water line at that time was 11.3 feet at Station 153, and 13.5 feet at Station 185, giving a fall in the high-water slope of 2.2 feet in a distance of 16,000.

Now let us cut down the bed of the river to a depth of 20 feet below low tide, all along the line from the foot of Grand Island to Station 153. Let us further assume that we have closed up the channel to a width of 950 feet average cross-section at half tide.

Then, according to a well-known law of hydraulics for computing the flow of rivers, we could have passed at this point not less than 218,670 cubic feet of water per second.

At Station 153 we have a depth of 27.2 feet below low tide.

What were the real facts in the case during the flood of January and February, 1896?

At this time, to wit: on the 1st day of February, 1896, we measured the flow of the passing flood at a point about one half mile above Newtown Landing, where the waters of Yolo Basin, Steamboat Slough, and Old River were in one stream. It was found by that observation that,



while the gauge at Maine Prairie registered 16 feet, the gauge at Ryer Island pumping-plant registered 14 feet 10 inches, the gauge at Rio Vista 12 feet 3 inches, and that at Collinsville 8 feet. At this time, and under these conditions, the velocity and cross-section showed that there was passing the point of observation 163,387 cubic feet per second, with an average or uniform velocity of 4.44 feet per second. The same cross-section with given water slopes, by Cutter's formula, indicated the passing of 163,294 cubic feet of water per second. A remarkable check.

Therefore, according to the first hypothesis, by deepening the river to a depth of 20 feet below low tide, and 950 feet in width, we could conduct 55,283 cubic feet of water more per second, at the same elevation of flood plane, than we did during the last flood.

Again, if we would deepen the river to 20 feet below low tide, with a width of 1,000 feet on bottom, and sloping sides to the present levees and high land at the station of observation, then we would have a cross-sectional area of 45,816 square feet, a velocity of 5.13 feet per second, and a resultant flow of 235,952 cubic feet per second. In other words, with this class of river, and the water slope as it was on February 1, 1896, we could have discharged 72,000 cubic feet of water more per second than we can with the river in its present condition. The observations were taken at about high tide.

In a word, we could have passed at this point nearly double the amount of water flowing at the confluence of the Sacramento and Feather rivers, which was at that time about 121,000 cubic feet per second.

What, therefore, would have been the actual condition of the river at the point of measurement, had the river been improved as herein suggested?

Let us assume that the water surface should rise no higher than 10 feet above low tide at the point above cited as the point of observation.

We will have a cross-sectional area of not less than 40,376 square feet. It is fair to presume that, with a uniform river as here proposed, we would have a uniform velocity of 4 feet per second, which would discharge 161,504 cubic feet per second, or nearly as much water as passed this point on February 1, 1896, but at an elevation 3 feet lower than at that time—at least 40,000 cubic feet per second more than was passing into Yolo Basin and the Sacramento River at the confluence of the Sacramento and Feather.

Again, we find, according to the gauge records, that the difference in elevation between the high water at Collinsville and at Toland's Landing during the flood of 1896 was seven-tenths of one foot, or on a grade of  $\frac{7}{1000}$  for each running foot, and that at high tide.

Let this same grade be continued on up the river to the point at the

foot of Grand Island, where our observations were taken, and we have a distance of 80,000 feet, which would give a gradient elevation of 1.6 feet, or the surface of the water would be 10.1 feet above low tide in Suisun Bay, instead of 13.1, as we found it. In other words, for the same volume of water we may, by the improvement proposed, lower the flood height of water 3 feet and dispose of all the water presented for disposal on February 1, 1896.

It has been estimated by the Chief Engineer of the Board of Commissioners of Sacramento River Drainage District, dated November 28, 1879, that the Yolo Basin, during high water in 1878, was practically a reservoir holding 49,000,000,000 cubic feet of water.

It would take this river, thus improved, running 161,000 cubic feet of water per second, about  $3\frac{1}{2}$  days to empty the basin.

If the river discharged 236,000 cubic feet per second, as would have been the case had the improvement been made and the water as high as found last February, the basin could have been emptied in  $2\frac{2}{5}$  days of twenty-four hours each.

But this condition never would have occurred, if the river had been improved as suggested. The outlet would have been far greater in capacity at a lower stage of the flood than the inflow or supply. The result would have been that a safety-valve would have been put upon the flood-stage and the danger that menaced the islands of the lower river would never have come.

Let us ask the property-owners of Ryer Island and the Egbert District, what would have been the result on Cache Slough if the flood-line of 1896 had been 3 feet lower than it was in February, 1896? If the outlet of Cache Slough should be properly improved, it is safe to say the flood height at Maine Prairie would have been at least 4 feet lower than it was in February, 1896.

What would have been the result of this single improvement on Old River and Steamboat Slough? The distance from the mouth of Old River to Walnut Grove is by river 65,750 feet. Assuming that the flood-waters should reach the same elevation at this point as they did in February last, then with this improvement perfected we would have had a fall of the surface of the flood-line of 5.9 feet in the distance of 65,750, instead of a fall of 2.8 feet, which we had last February.

The cross-section at low water 1896, at the foot of Ida Island, on Old River, was 5,070 square feet. If we assume the elevation of high water to be 11 feet, as it would be if the river were improved as proposed, then would the cross-sectional area at this point be 8,830 square feet, and, with the fall above indicated, would give us a velocity of 3.18 feet per second. The actual velocity observed by us on February 1st last was 1.89 feet per second, with a cross-sectional area of 10,322 square feet, which signified

that 19,508 cubic feet of water per second was flowing down Old River at that time.

With a velocity of 3.18 feet per second, Old River would have discharged at this point 28,079 cubic feet per second at an elevation 3 feet lower than it was during the flood of February, 1896; a gain of 8,571 cubic feet per second.

Similar conditions would obtain in Steamboat Slough. In fact, Steamboat Slough, being the shorter of the two branches of the Sacramento River by 6 miles, we could reasonably expect it to have a greater velocity than Old River. The fall or slope of the high-water line from the head of Grand Island to the foot of the same on Steamboat Slough, when the river is improved as suggested, could be 5 feet instead of a little over 2 feet. The velocity of the stream would be 3.4 feet per second, and with a cross-sectional area the same as Old River, would discharge 30,000 cubic feet per second.

Therefore, immediately upon the opening of the river over the Newtown shoals, we may expect a discharge of 58,000 cubic feet per second on a lower elevation of flood-plane by 3 feet, while it is evident the last flood period for these rivers discharged but 40,000 cubic feet per second.

We have now gained an increase in the discharge of Old River and Steamboat Slough of 18,000 cubic feet per second, or nearly one-third more water, at an elevation of 3 feet below the flood-plane of last February.

We do not presume that any person familiar with the action of water will question the results that may be anticipated from this one step of improvement. It is not unreasonable to expect the power of the water to assert its influence at once. We can expect the river to begin the deepening process at once, and the capacity of Old River and Steamboat Slough to be enlarged in one flood to such an extent as to demonstrate beyond a doubt the beneficial effect of this primitive step in river improvement.

It is safe to say that Steamboat Slough will become navigable throughout its whole length, and when properly aligned, and enlarged at its head, will become the great drainway of the lower Sacramento Valley.

It is safe to say that the tidal influences will soon assert themselves, and Steamboat Slough will become a deep tidal river, as it was in 1841, with the exception of the Hog's Back, which can easily be rectified and removed.

All shoals between Newtown and Collinsville must ultimately be removed. Horseshoe Bend must be corrected so as to offer as little resistance as possible to the free outlet of the floods, and many other important steps taken in the line of river improvement; but *the important* step, and one that must be taken before any other, is the correction of the evils now existing at the Newtown shoals. Without this, all other



work is, in our estimation, useless. The entrance of Old River into Steamboat Slough or the lower Sacramento should be corrected so that the water from the former stream will enter the latter at a more nearly parallel course to the general direction of the water.

#### EXAMINATION OF PROFILE.

Let us now examine the profile hereto attached, and see if we can discover any hope of relief or see any signs of the possible usefulness of the work proposed.

At Collinsville the average depth of water below low tide in Suisun Bay, for a width of 600 feet, is 18.4 feet, emptying into the confluence of the San Joaquin and Sacramento rivers with a broad mouth.

As we pass on up the Sacramento, but a short distance above the mouth we find a river 990 feet wide, with an average depth of 25.3 feet for a width of 600 feet, below low tide.

At Toland's Landing, with a width of 737 feet at low tide, we have an average depth of 26.6 feet.

At a point just above the head of Three-Mile Slough we have a width of 935 feet at low water, and a depth of 27.2 feet for 600 feet in width.

At the foot of Wood Island, where the river has two channels with a width of 1,350 feet, the maximum depth for 600 feet in width is not more than 13 feet, leaving a channel of 750 feet much shallower.

At the head of Wood Island we have an average depth of 6.5 feet for a width of 1,200 feet, with a total width of 2,900 feet.

At a point opposite Newtown, we have a total width of 2,820 feet, with an average depth of 6.5 feet for a width of 600 feet; the remainder, or 2,220 feet, has a bed elevation about equal to low tide.

At the mouth of Old River we find a total width of 850 feet, with a depth of 25.8 feet below low tide when averaged for 600 feet of width.

Cache Slough is a deep tidal waterway, capable of reservoiring large quantities of water at high tide. The slough is unfilled from sediment, and therefore in prime condition to assist a tidal flow. The great impediment in the way of free tidal flow is, therefore, confined principally to the Newtown shoals. If this impediment should be removed, then will Cache Slough have 10 miles of tidal area above this point, and Lindsay Slough 5 miles of additional tidal area, in length, with a width for both of from 200 to 500 feet.

The tidal area of Yolo Basin can be vastly improved by excavating a deep channel from Cache Slough to Big Lake, a distance of 10 miles. This would not only give a much larger tidal area, but would assist the escape of flood-waters.

Let us again return to a consideration of the profile. The most important feature shown on this map and profile is the line indicating



the probable depth of the river prior to 1878. We observe that the original channel contained deep water, at low tide, all along the line, with the exception of the Newtown shoals. It is evident the Newtown shoals have existed ever since man has had any history of the river. We observe from the profiles that the shoal water has gradually moved up stream, showing that where shallow water existed in 1841 there is now comparatively deep water; therefore, the shoals are of a sedimentary formation, and the indications are that no hard banks there prevail, requiring drastic measures for removal. We therefore conclude that were the low-water channel confined to a proper width, the work of deepening the channel would at once begin.

Let us now compare the river-bed condition in 1878 with that of 1895, as shown on profile. Nearly every point along the line, from Collinsville to the foot of Grand Island, shows that the river has been excavating its channel since 1878. We find a difference in the profile lines of from 3 to 5 and 10 feet in depth in favor of the increased depth of water. Very little, if any, deepening has taken place on Newtown shoals. Wherever the river runs through a properly constructed channel with reasonable width, we find the river has bettered itself. Wherever the channel is faulty, there has been little, if any, improvement. The formation of Wood Island, having divided the river into two distinct channels, causes the profile to show deep water where, in 1841, there was shallow water. This is one of the greatest practical examples of the truthfulness of our position that can be found in the history of the river. The shore of Wood Island has continued to close up the channel by accretion, until the river is now of a width commensurate with the flow of water, and is therefore deepening its channel between the shore of Wood Island and the main land.

At no point on the river from Collinsville to Rio Vista do we find deep water at low tide, unless the river is 900 or 1,000 feet in width.

If the Newtown shoals should be removed we might expect a tidal flow of 6 feet at ordinary high tide, whereas we now have but 3 feet.

We have made an approximate estimate of the quantity of earth required to be removed in order to enlarge the river capacity in conformity with the suggestions already indicated. It will require the removal of 3,248,590 cubic yards of earth from the present bed of the river, and 1,303,000 cubic yards of earth from the shore of Wood Island; making a total excavation of 4,551,590 cubic yards. The 1,303,000 yards must be excavated by dredging, which can be accomplished at a cost not to exceed \$250,000, and probably for much less. The removal of the 3,248,590 yards of earth on the shoals and in the bed of the stream will be accomplished by the construction of proper training walls, at a cost not to exceed \$250,000. We would recommend the construction of training walls or curtains from the head of Wood Island to a point on

the left bank of the river, near the confluence of Old River and Steamboat Slough, and at an elevation of half tide to begin with.

#### THE EFFECT OF RIVER SILTING.

A water-gauge placed at the foot of K Street, Sacramento City, has been maintained ever since 1849; the zero of the gauge marking the elevation of low water of that year. From a perfect system of levels from New York Landing or Black Diamond to this point, we find that the zero of the Sacramento gauge is 3.85 feet above mean low tide in Suisun Bay; therefore, the low water of 1849 was 3.85 feet above low tide.

From a record of gauge-readings the low water of 1895 at Sacramento City gives us a reading 12.35 feet above low tide in Suisun Bay, or a raise of 8.5 feet in the low-water line since 1849. From 1849 to 1854 the same gauge indicates a raise of 1.8 feet; making its elevation at that time (1854) 5.65 feet above low tide in Suisun Bay. In 1878 the low-water mark registered at Sacramento was 9.35 feet above low tide, and in 1885, 11.35 feet. Thus we see a gradual increase in the elevation of the low-water mark all along through the years of observation, but most rapidly during the era of extensive hydraulic mining.

From the above data we can infer that the low water of 1849 at the foot of Grand Island must have been very little, if any, above low tide in Suisun Bay. It is unnecessary to say that the cause of the increase of elevation of low-water line is the silting of the bed of the river.

By a system of cross-sections of the Sacramento River, taken in 1854 in front of the City of Sacramento, we have been able to compare subsequent conditions of the bed of the river. This comparison shows a contraction and filling of 12,720 square feet in front of K Street from 1854 to 1895.

It is safe to say that the Sacramento River, in front of Sacramento City, has lost, since 1854, not less than 40% of its water capacity. Between Sacramento City and Elkhorn Ranch it has probably lost over one half its water capacity.

If, then, we had a deep tidal river in 1849 at Sacramento City and all along the line, there can be but one reason assigned for the change, and there can be but one conclusion as to the remedy. A deep river is what is required; a return as nearly as possible to the conditions of nature before the silting of the stream. Can the remedy be applied? *The history* of river treatment answers in the affirmative with facts and results that cannot be questioned.

The improvement of river channels has been so scientifically treated and studied that a law has been demonstrated which, in its effect, is as certain as the laws that govern the movements of the planets. The

locomotive engineer, by the twist of the screw or the movement of the lever, can either direct his iron horse to move on or reverse its pace and move backward. The pilot can, by the turn of a wheel, either direct the course of a vessel to the right or to the left. So the civil engineer, by the direction of the power of water, can either deepen or shoal a stream. Let us now consult some of the master authorities on this subject.

From Report of Mississippi River Commission, 1880:

"It would seem, therefore, that the plan of improvement must comprise as its essential features the contraction of the waterway of the river to a comparatively uniform width and the protection of caving banks, and this is presumed to be the plan referred to in the Act as the 'Jetty System.' The work to be done, therefore, is to *scour* out and maintain a channel through the shoals and bars existing in those portions of the river where the width is excessive, and to build up new banks and develop new shore-lines, so as to establish, as far as practicable, the requisite conditions of uniform velocity for all stages of the river."

The same report says:

"These general principles may be briefly and comprehensively stated as follows, viz.: If the normal volume of water in a silt-bearing stream, flowing in an alluvial bed of its own formation, be permanently increased, there will result an increase of velocity, and consequently of erosive and silt-bearing power, an increase of area of cross-section, and an ultimate lowering of the surface slope."

The jetties at the mouth of the Mississippi River scoured out of the bed of the channel, in one year, 1,519,812 cubic yards of material.

Corthell says:

"Between January 20 and April 8, 1879, the depth on the bar increased from 23.9 feet to 27.2 feet. The spring floods produce a development the entire length of the jetties, which resulted, on April 7th, in a channel 25 feet deep and 200 feet wide, which was certified to by Captain Brown, U. S. A."

July 10, 1879, Captain Brown says:

"I certify that on the 8th day of July, 1879, there was a channel at the mouth of South Pass, through the jetties, 30 feet in depth without regard to width, measured at average flood tide, and extending from a wider and deeper channel in South Pass to deep water in the Gulf of Mexico." [This was the maximum channel demanded by the law.]

"The current moved in all 7,607,151 cubic yards of material from the bottom and carried it seaward. Only about 1% of the whole amount of material was moved by dredging.

"The above facts prove the truth of the theory of Captain Eads, before the jetties were commenced, that it is impossible to permanently deepen the channel of sediment-bearing rivers without proportionately contracting them. The engineer can control only the form of the channel."

Corthell says, in conclusion, page 241, etc.:

"But the jetty principle has been so clearly proven to be in perfect harmony with the laws of nature that either at the mouth of the South Pass or some pass of the Mississippi River jetties will be maintained forever. So long as the husbandman tills the soil of the Great Valley, so long shall he find for his productions a natural highway to the world through an open river mouth."

The above remarks are taken from the history of the improvement of the mouth of the Mississippi. They require no explanation; they are



in themselves the compendium of nature's laws, verified by actual experience.

David Stevenson, in his work on Canals and Rivers, page 194, says :

"The next work to be noticed is the closing of what I term subsidiary channels, which are sometimes called back lakes, or blind channels, and are caused by islands in the river, so that instead of *flowing in one broad, deep, and navigable bed, kept open by the whole available scouring power*, the river is divided into two shallow channels, neither of them affording a good navigation."

Leveson Francis Vernon-Harcourt, M.A., M.I., Civil Engineer of Balliol College, Oxford, says:

"When deposit occurs in the channel, owing to loss of velocity, the river becomes shallow, and being unable to scour out its bed it widens out in order to maintain its discharge."

The same author, page 233, says:

"As far, therefore, as the outlet alone of a river channel is concerned, it will be better maintained in proportion to the tidal capacity of the river above it."

Also, page 234:

"*A rapid rise of the bed of a river inland contracts the effect of the tidal rise at its mouth and prevents the tide from going far up the river channel.*

"Moreover, by producing a rapid fresh-water flow it causes an antagonism between the fresh-water discharge and the flood tide, which still further limits the range of action of the tide, and has a tendency to form a bar.

"Every work, however, which improves the tidal flow in a river *lowers its low-water line, owing to the escape of the ebb tide being facilitated. As the lowering of the low-water line unaccompanied by a lowering of the high-water line indicates the admission of a larger volume of tidal water, and an increased velocity and a more efficient scour of the ebb tide, the amount of lowering of the low-water line of a tidal river may be taken as a sort of measure of the improvement effected.*"

We deem it unnecessary to produce further authority upon the question of the results of deepening the Sacramento River at its mouth or within its tidal area.

We desire now to present some living examples of river improvement in countries other than the United States.

*The River Seine.*—From Leveson Francis Vernon-Harcourt, M.A., page 266, etc.:

"Previous to the year 1850 the navigable condition of the Seine, between La Mailleraye and the sea, was very unsatisfactory. The state of the river between Rouen and La Mailleraye, a distance of 37 miles, was fairly good, as, though the depths were variable, the channel was fixed. Below La Mailleraye, however, the width of the river became very variable, so that whilst it was 820 feet wide at La Mailleraye it reached a width of 1,570 feet to the right of the Vernier marsh. The river, moreover, was incumbered with shifting sand-banks, which, under the influence of the currents, were continually altering the position of the navigable channel; so that frequently, in the course of a few days, the channel shifted from one bank to the other. The depth also was irregular and variable.

"Above Quillebeuf the depth was insignificant, and below it there was an available depth of only 14 feet at the highest tides, and 5 feet 9 inches at high water of neap tides.

\* \* \* Vessels of only between 100 and 200 tons navigated the river with difficulty.



"The journey from the sea to Rouen, a distance of 74 miles, occupied four days; only vessels drawing not more than  $10\frac{1}{2}$  feet could get up to Rouen, and these only at certain states of the tide."

The author then continues a history of the works, which we will omit and only give the results of the work.

*"Results of the Tidal Seine Embankments.*—The effect of the works on the portion of the river between the embankments has proved most satisfactory. The level of low water at Rouen has been lowered (74 miles from sea) 2 feet  $3\frac{1}{2}$  inches at spring tides, and 2 feet  $9\frac{1}{2}$  inches at neap tides; whilst the level of high water (high tide) has been only lowered about an inch. In some places the bed of the river has been deepened as much as 29 feet. The Meules bank, a little below La Mailleraye, is the shallowest place on the river, but it has been lowered 10 feet by dredging, and there is now never less than 15 feet 9 inches over it at high-water neap tide. The least depth, lower down, is 21 feet 8 inches. \* \* \* Vessels of 2,000 tons have managed to get up to Rouen, and in 1877 the 'Tyro,' drawing 21 feet, accomplished the passage. The length of river regulated by the embankments is about 25 miles, and the distance from the termination of the embankments to the actual sea is about  $10\frac{1}{3}$  miles."

We regret we cannot give a profile showing the results of this work. The original river from Villequier to Vieux Port, a distance of 7 miles, was, in 1824, very wide and shallow. At points low tide exposed the bed of the stream.

In 1876, after the training walls were constructed, the profile shows deep water all through this reach of the river, averaging a depth of 10 to 20 feet lower than in 1824. At the mouth of the Seine the profile shows a bar not more than 2 feet below low tide. Thus we see, although the bar is nearly low tide in elevation, the river for 74 miles above has been deepened and the low-water line reduced nearly 3 feet in elevation, all within a tidal area.

*The River Clyde.*—The same author says of the Clyde:

"The Clyde, which in its natural state was a small stream incumbered by shoals, possesses one most important natural advantage. It flows into a deep, wide, and long estuary, which, under the name of the Firth of Clyde, extends from Greenock to the sea. Its outlet is therefore most effectually protected and secured, so that no difficulty is experienced in maintaining it. Considering that the improvement of the depth of the outlet of a river, across a shallow beach, and exposed to waves and littoral currents, is generally the most difficult problem in river improvement, it must be acknowledged that the Clyde is peculiarly favored in this respect."

(The conditions are the same for the Sacramento River.)

*"Improvement of River Clyde by Jetties and Removal of Hard Shoals.*—In the middle of the last century, the Clyde was such an insignificant river that it was fordable on foot at Dumbuck Ford, more than 12 miles below Glasgow, and there were numerous shoals higher up. In the year 1773 Mr. Golborne commenced the system of contracting the river by jetties, so that it might scour itself out a deeper channel; and he also removed hard gravel shoals, by dredging or ploughing, which the current was unable to act upon. In the two following years the channel across Dumbuck Ford was made 7 feet deep and 300 feet wide, at low water, by dredging; and six years later it was found that the natural scour of the river had lowered it to 14 feet.

(Page 283.) *Result of Works on River Clyde.*—"The result of the improvement, which have been carried on continuously during the present century has been to convert an

insignificant stream into a deep, navigable river, as shown by longitudinal sections of channel (Plate 17) which, by Mr. Deas' aid, have been carried up to a recent date. For, whereas, in 1755, the depth at Glasgow was only 1 foot 6 inches at low water, in 1830 vessels drawing 15 feet of water could use the harbor; and the depth was gradually increased, so that in 1870 vessels of 22 feet draught were able to get up to Glasgow. Also, whilst only a few years ago, vessels drawing over 15 feet of water occupied two or three tides in passing up or down the river, vessels drawing 22 feet could reach the sea in a single tide in 1873; and now (1882) the available channel is 24 feet deep at high water, from Glasgow to Port Glasgow." (A distance of 19 miles.)

"The range of spring tides is 9 feet 1½ inches at Port Glasgow, and 11 feet 2 inches at Glasgow; whereas, in 1834, with a range of 11 feet at Port Glasgow, it was only about 7 feet at Glasgow. Also, whereas, in 1837 the time of high water was 1 hour 23 minutes later at Glasgow than at Port Glasgow, it had been reduced to 1 hour 5 minutes in 1873. Low-water level has been gradually lowered 8 feet at Glasgow since 1758."

(Page 284.) "The lowering of the low-water line is the natural consequence of the regulating and deepening of the river, which has facilitated the ebbing out of the tide."

(Page 296.) "It is interesting also to note, with reference to the fresh-water discharge of the Clyde, that, *whereas the inundating of the low-lying parts of Glasgow was of frequent occurrence up to 1840, the improvement of the outlet has put an end to these floods.*"

#### APPLICATION TO THE SACRAMENTO.

Will the principles discovered in the foregoing facts apply to the Sacramento River? By an inspection of the conditions, we find low-water flow of the Sacramento River is about 4,000 cubic feet per second, making in itself an aggressive power, which, if properly trained, will in its unloaded condition assist very materially in deepening the stream.

Eight months of the year the fresh-water discharge is increased from 4,000 cubic feet per second to a vast torrent of 100,000 to 200,000 cubic feet. The velocity is increased from 2 to 5 miles per hour, giving ample force to erode instead of shoal any portion of the river, if the alignment of the river should be corrected and its channel properly trained.

An examination of the bed of the river in 1841 compared with the present time indicates an extensive filling of the same and consequent destruction of its drainage and scouring forces. The indications point very strongly to the fact that the river, at the present time, from Rio Vista to Collinsville, is deepening its channel. With a deep river from Collinsville to Cache Slough; with the good tidal area that we can command above the confluence of the three rivers—Old River, Steamboat Slough, and Cache Slough—and in the light of the results accomplished on less favorable streams, we may confidently expect grand results from the work proposed.

Let us quote the language of James B. Eads upon this point. Speaking of the whole Sacramento River, he says:

"The effect of such an increased volume will be to deepen the bed after the rectification of the channel is effected; and this process will continue until a lower surface slope reduces the velocity so much that it will be only capable of carrying the sediment poured into it by its tributaries without taking up any additional quantity from its own bed. \* \* \* As the slope is gradually lowered by each addition to the volume which the channel is compelled to receive and carry, the capacity of the Sacramento, like that

of all other streams flowing through their own deposits, will be only limited by the volume it is compelled to carry; and as the lowering of the slope brings the flood surface, at first, below the tops of the levees, and finally below the tops of the banks, as the volume is increased, and so on still lower, if the volume be still more increased, it follows that, when the channel is once corrected, the volume can be more rapidly augmented each succeeding year, and thus what may at first seem a paradox becomes a reality—namely, the larger the volume of the flood carried in the river the less will be the need of levees. But the lowering of the river floods at Sacramento City, below the natural surface of the land there, after a proper correction of the channel shall have been made, will be a question of the volume of discharge through it. If this be sufficiently increased, the flood-line can be permanently kept below the lands in the vicinity of the city without levees." (From Report, 1880, to his Excellency George C. Perkins, Governor of California.)

We have observed, from calculations made and noted in this report, that we can increase the volume of flow largely by the corrections named, viz.: from 30% to 50% from the foot of Grand Island to the mouth of the Sacramento.

With Horseshoe Bend corrected we may expect to increase the capacity of the lower river so that there can be no question as to its carrying capacity.

From the conclusions drawn from the cases of river improvement above cited, and the authority just noticed, we are justified in concluding that the Sacramento River can be deepened, can be improved, can be made the great drainway of the Valley.

The all-absorbing question now confronting the people of the Sacramento Valley, from the head of overflow to the sea, is the problem of lowering the surface of the flood-waters and the maintenance of a low flood-line throughout the valley. We may build relief canals; we may pile higher and higher our levee system, but what avail is it if the bed of the river continues to rise; the outlet continues to choke up, the passage to the bay and the upper valley is converted into a flood ocean?

Nature originally cut the arteries of drainage for the purpose of accommodating the waters of the valley. The beds of these arteries or streams were, and are now, to some extent, below the surface of the adjacent overflowed lands. Therefore, fill up the streams and you force nature to assert her privileges, and in order to maintain her drainage capacity she spreads over the surface of all low lands. The velocity is therefore checked; the working power of your water is exhausted in overcoming the friction of its unnatural bed, and the inevitable result is the destruction of both navigation and reclamation.

How can the Butte, Colusa, and Sutter basins expect to obtain relief when nature is forced to make a water dam from the confluence of the Sacramento and Feather to Suisun Bay?

The first, and therefore most important step, is the acquiring of an outlet for the lower river.



## THE YOLO BASIN CREVASSES.

We now naturally arrive at a point in our discussion which requires an answer to the query, "How to increase the flow in the main river?" This question involves the control of the large crevasses now permitted to exist just below the confluence of the Sacramento and Feather rivers.

It is shown by Humphreys and Abbott, in their report on the Mississippi River, that an ordinary crevasse on that river does not produce a shoaling of the river-bed below the exit of the crevasse. We must, however, not conclude from these statements that all crevasses do not produce shoaling or bars below the debouchure.

If their examinations prove anything, it is certainly nothing more than that a deep river can suffer the effect of a small crevasse without any perceptible effect upon the silt-bearing capacity of the stream, so long as the crevasse is not deep or the velocity of the stream below the crevasse retarded.

The Mississippi River has a depth of from 60 to 170 feet, from the mouth of the Ohio to New Orleans. The Sacramento has a depth, at low water, of from 5 to 10 feet, from Feather River to the foot of Grand Island. At high water the depth is increased from 15 to 20 feet more, giving a depth of 20 to 30 feet during flood periods.

Observe, therefore, the great difference between the Mississippi River and the Sacramento.

A crevasse in the bank of the Mississippi has merely the effect of drawing off the very lightest silt. The volume of water discharged by any one crevasse in the bank of the Mississippi is not to exceed one fifth part of the volume of flow, and probably not more than one tenth.

What are the conditions on the Sacramento? We have a series of crevasses below the confluence of the Feather and Sacramento whose combined discharge is, at flood season, not less than three fourths of the whole flood flow. Thus, in January, 1896, we have a flood presented, above these crevasses, with a volume none less than 121,000 cubic feet of water per second, while below the crevasses not more than 30,000 cubic feet per second is flowing down the original stream.

Thus we see the main stream loses three fourths of its volume at once, the bed, or lowest portions of the outlets, being about low water. There is not to exceed 6 to 10 feet of water in the main stream, below the bed of the crevasses.

The velocity of the river just above the point of exit of the water through the crevasses is not less than 6 feet per second during flood season, while one half mile below the exit of the lower crevasse the velocity does not exceed 3 feet per second, and  $2\frac{1}{2}$  miles below the crevasses the velocity does not exceed  $1\frac{3}{4}$  feet per second.

To the man untrained in engineering problems, it is not hard to



understand this condition of forces. If you have a body rolling down an incline or hill, so long as the slope remains the same the body will continue to roll on and on. Now, let the body roll out on to a level plain from a steep incline. The forces that moved it on the side-hill have ceased to act—but the body has gained a certain momentum which carries it on to the plain, but through each increment of time the velocity of the body becomes less and less, until it finally ceases to move.

So it is with this great flood-wave. When it emerges from the upper Sacramento and the Feather it comes like the rush of a mountain torrent, loaded with vast quantities of slickens, sand, and fine gravel, the heaviest portion of which is in the lower strata of the running water. The lighter portion is rushed through the crevasses into the Yolo Basin, while the heavier portion remains in the bed of the stream, passing down the stream on to the level plain, as it were, only to lose its force gradually, and finally to unload its waters. It is not difficult to understand the consequences of these conditions. The ultimate end is the filling of the river below the crevasses. These conditions have maintained more or less for all great flood periods of the Sacramento Valley, and especially so since the filling of the river from mining debris.

The land-owners of Yolo Basin have built their levees, year after year, only to have them destroyed by the first important flood period of the river. They have, within the last three years, ceased to fight the inevitable, and the river front is now abandoned to its fate. The result is that for a distance of 4 miles along the right bank of the river, below the confluence of the Feather and Sacramento, in time of flood, there is one solid sheet of water pouring from the river into the Yolo Basin. Within this distance no less than three or four very large and deep crevasses now exist.

#### EFFECT OF THESE CREVASSES.

It has been the object of our investigation to determine as nearly as possible the actual effect of these crevasses on the water capacity of the river.

By a comparison of the soundings of the Sacramento River made in 1878 with those of 1894 and 1895, we are permitted to give some facts that may indicate a remedy for many existing evils.

The river-bed from Collinsville to the foot of Grand Island has already been reported upon, and we can say that from a similar course of reasoning we have compared the condition of the bed of the river in 1878 with that of the present time as far up the river as the confluence of the Sacramento and Feather. From this investigation we are unable to discover very much increase in the river-bed elevation from the foot of Grand Island to the City of Sacramento. It, of course, is bettering

its condition but slightly, if any. The moment, however, that we pass above the mouth of the American River, and from that point on up the Sacramento to the Elkhorn Ranch, a point one half mile below the lower crevasse, we discover a general contraction and gradual elevation of the bed of the stream. From the Elkhorn Ranch to the mouth of the Feather River we discover the reverse of the conditions between Sacramento City and Elkhorn. The bed of the river indicates a deepening rather than a filling in this section of the river. We could expect no other result.

It is safe to say this process of *river ruin* will continue as long as the crevasses are permitted to remain open. The final result is the gradual destruction of the water capacity of the Sacramento River from the Feather to Sacramento City, and finally to the outlet at Suisun Bay.

The general elevation of the tule lands in the Yolo Basin at points opposite the exit of the crevasses above described is not less than 19 or 20 feet above low tide in Suisun Bay. The elevation of the bed of the river at what is known as Elkhorn Ranch, in 1878, for the deepest water, was 3 feet above low tide in Suisun Bay. The elevation of the bed of the river in deepest water at the same point, according to the soundings of 1894, is 7.5 feet above low tide; making a fill at this point, since 1878, of 4.5 feet in the deepest water, or, by a comparison of average soundings, there has been an average fill of  $2\frac{1}{2}$  feet for the whole width of the river.

At a point on the river 15,000 feet lower down than the Elkhorn station, the bed of the river, in deep water, has been raised 5 feet from 1878 to 1894, and the average fill has been 3 feet for the whole width of the river, the elevation of the deep-water bed being on a dead level with the elevation of the bed of the river at the Elkhorn station.

Throughout this 15,000 feet we have a comparatively straight river with a normal width, originally, of 600 or 700 feet. The elevation of low water, in 1878, at Elkhorn station, was about 14 feet above low tide. In 1895, at the same station, it is found to be about 17 feet above low tide, having risen, in seventeen years, about 3 feet, which we observe agrees very remarkably with the increase of the elevation of the bed of the river during that period.

The elevation of low water being 17 feet above low tide, and the elevation of the tule lands 19 or 20 feet above same datum, and the low-water line having risen 3 feet in the past seventeen years, it is not difficult for the most casual observer to predict the final result, should these conditions continue to exist.

We are prepared to state, however, from surveys and examinations made during the past two years, that the indications are that the river is filling more rapidly for the past two years than it did during the same length of time from 1878 to 1894.

Now, if it is true—and it is—that the low-water line has risen 3 feet in the past seventeen years, what must we expect the flood, or high-water line to do? Evidently, to likewise raise. Indeed, we find the high-water line at the Cove Dairy, just below the mouth of the Feather, in 1878 to be 33 feet above low tide, whereas on January 30, 1896, the flood line at the same point registered 35.5 feet, or an increase in elevation of  $2\frac{1}{2}$  feet, which agrees very materially with the increase of the low-water line.

We are not entirely familiar with the conditions that existed at the time of taking high water for 1878, but it is safe to say no such extensive crevasses existed below the Feather River as did in 1896. Therefore, had there been less escape of water into the tule basin, there evidently would have been a higher flood line in 1896. How much higher, would have been determined only by the stability and maintenance of the levee system below the mouth of the Feather.

It is but natural that the casual observer will infer from the above facts that crevasses are a good thing to have at the points above named. Nothing can be further from the truth. It is true that easements should be maintained at points on the right bank of the river so as to prevent the destruction of levees on the lower river; but to permit three fourths of the flood-waters to escape into the basin during ordinary high water is not only a devastation of property, but will ultimately ruin the navigation of the Sacramento River.

This policy, it seems to us, is a slow but solemn warning to all land-owners of the Sutter and Colusa basins, as well as to the land-owners residing along the banks of the Feather River.

If the present condition of the rivers of the Sacramento Valley is permitted to continue, we may expect to see the flood line of Sutter Basin gradually increased in elevation year by year, until, in flood times, no artificial works of man can resist the coming of the flood.

Should the time come when the low-water line at the site of the crevasses hereinbefore referred to shall be of an elevation equal to the natural surface of the tule in Yolo Basin, then we may expect to see Sutter Basin in flood time contain a body of water whose surface will be 3 feet higher than at the present time, which means not less than 40 feet above low tide, at Knight's Landing. Such a condition means a body of water of equal height with the highest water ever known in the river at Knight's Landing, extending over a vast area from the Feather River to the Sacramento, with an increasing surface slope from the confluence of these rivers to a point 30 miles northerly or to Butte Slough.

Such conditions not only mean the destruction of Sutter Basin, but also Yolo, Colusa, and Butte basins. They all mutually rely upon a perfect outlet—one that will not raise the surface of the flood-waters.



The results of a flood under such conditions can be foretold only by a wise prognostication of disastrous results.

It must be borne in mind by those living on the upper Sacramento and Feather rivers that Cache Creek is slowly but surely building another dam from the west side of the Yolo Basin to the banks of the Sacramento. The deposits made by the present crevasses are only assisting Cache Creek in its dam-building. The Feather River has built and is building its ridge from the Sierra Nevada Mountains to the Sacramento River. The Sacramento River below this point is shoaling and contracting, and will continue to do so for years to come, and for miles below the confluence of the two rivers. We therefore cannot expect a cessation of the elevation of the flood line until nature has made a vast reservoir of all the upper basins, and the slope below has been increased sufficiently to resist further deposits commensurate with the wide expanse of her flood area. It must, therefore, be very plain to the land-owners of the upper basins that the improvement of the lower river is their salvation. It must be evident to every man interested in the rich bottom-lands of the Sacramento Valley that deep waterways are what are required for the escape of the floods, and that the work should begin at the foundation and not at the top of the structure. We need not tell the land-owners of Sutter, Colusa, and Butte basins that a lowering of the flood line at the mouth of the Feather will lower the flood line throughout the northern portion of the Sacramento Valley. They all know that the water dam formed by the union of the waters of the Sacramento and Feather rivers is the cause of disastrous floods in the upper Sacramento Valley. The important thing to do is to lower the flood line at the confluence of these rivers, and this necessarily means the lowering of the flood line from this point to the mouth of the Sacramento River.

We believe that from the foregoing discussion we have clearly shown that the only way to do this is to deepen our rivers. To deepen our rivers *we must* utilize the power of the water and the forces that nature has given us.

We may remark here that no complete system of reclamation can be expected until the rivers are under control. Hence we have not attempted to discuss the question of final reclamation, leaving a consideration of that important question for a time when all the agencies to be controlled are measurable and not uncertain, as they now are. The rivers once controlled, it seems to us the reclamation of the lands and care of fugitive waters is a simple problem which the conditions themselves will readily solve.

If the General Government will not undertake the task of rectifying the disastrous conditions that now prevail, then must the State, as a matter of self-interest, by judicious legislation and liberal appropriation,



do her part to remedy the evil. It will not do for the State to sit idly by and be a party to the devastation of its own resources. The Sacramento River is the great artery of trade for a vast agricultural community; a free highway for all competitors in freighting, and the road over which must be transported the products and the return merchandise of a thrifty and steadily increasing community. We do not believe that the City of Sacramento can sit quietly, with her great future before her, and witness the destruction of her greatest transportation highway. Two hundred miles of river front from Iron Cañon to the City of Sacramento cannot be abandoned without irreparable loss to the great metropolis of the Sacramento Valley. Sacramento City is now the shipping center for this great undeveloped region, where fruits and cereal products must now and in the near future find a market transport to the world. Close this line of cheap transportation, and other lines of transportation, more expensive, perhaps, to the producer, but under better conditions, will be established.

#### THE REMEDY.

The authorities heretofore cited, and the living example before us, indicated by the improvement of the river from Rio Vista to Collinsville, direct us to the remedy desired.

The volume of water discharged during flood season by the main river must be increased. Extreme flood-waters cannot be confined to the discharge capacity of the present river, but the conditions should be such that the river should conduct all the water possible up to the safety line before a particle should be permitted to escape.

In order to accomplish this fact, we must construct easements, or weirs, below the mouth of the Feather River, on the Sacramento, of such an elevation of overfall as will meet the requirements of safety and durability. These easements should be built in solid concrete, perfectly safe from destruction by the opposing forces of the floods. It will not be the purpose of these easements to raise the flood line, but rather to confine a greater volume of water in the original stream, after the extreme flood has passed. The surplus waters of the extreme flood period, which generally occupies but three to six days in passing, will be expected to take its present course until the time shall have arrived when the river shall have deepened its channel sufficiently to discharge any ordinary flood. The engineer will find no difficulty in constructing his easements in such a manner as to conform to the requirements of the problem. It is estimated that it will require \$225,000 to construct the necessary easements that will give the required relief in flood time between the City of Sacramento and the confluence of the Feather and Sacramento rivers. From the fact that the American River frequently

discharges a considerable body of water for a short period, it would be advisable to provide an easement below the City of Sacramento, as a safety-valve for that section of the river. It is estimated that it will require \$40,000 to construct this easement. We are, therefore, fully convinced that the sum of \$265,000 will construct all the easements required to put the river front in such condition that there need be no fear of destruction of levees by the extreme floods.

The construction of these easements we regard as of the greatest importance and only second to the removal of the Newtown shoals. It is absolutely necessary to the improvement of the Sacramento River that the flood-waters should be forced down the main channel. Until this can be accomplished no deepening can be expected, no increase in the capacity of the river realized, no systematic plan of river improvement put into operation.

#### LEEVE SYSTEM.

A systematic construction of levees should be at once inaugurated along the entire river front, on either bank, from the mouth of the Feather to the mouth of the Sacramento River. The direction of the construction of this work should be on a line adopted and designed by some State authority, such as the Commissioner of Public Works, and clothed with absolute power to enforce such concessions as are necessary to the full perfection of the work.

The distance from the mouth of the Feather River to the head of Grand Island is 47 miles by the river, and to the foot of Grand Island by way of Steamboat Slough about 60 miles. It is safe to say that 5,000,000 cubic yards of earth removed from the bed of the stream and placed upon the banks thereof, will construct and repair all the necessary embankments required to cause the river to conduct the necessary water to begin the scouring process. We estimate that, by contract, this earth can be put in place for the sum of \$350,000. The proper alignment of the levee system is one of the most important factors in the case. No wide reaches in the river should prevail, and on the contrary no extremely narrow river should be found, but one general, uniform channel from *start to finish* should be constructed, giving, as nearly as possible, a uniform channel capacity, with uniform velocity.

#### SUMMARY.

We may now summarize the work contemplated in this report, as follows:

Excavating channel of Wood Island .....	\$250,000 00
Cost of training walls, Newtown shoals.....	250,000 00
Construction of easements.....	265,000 00
Construction of levee system .....	350,000 00
Total cost of work proposed .....	<u>\$1,115,000 00</u>

The improvement of the head of Steamboat Slough is not included in this estimate, although it is of almost equal importance with any improvement suggested, and will, to some extent, be considered in the construction of the levee system above suggested.

There is, at the present time, a great deal of friction existing between the mining interests of the State and the land-owners of the Sacramento Valley. Hydraulic mining has been suspended almost entirely, for the reason that years of careless work has almost ruined our river system in the Sacramento Valley. Broad, deep waterways have been contracted and filled with mining debris, until the low-water plane has been raised enormously. It is now evident to both interests that better judgment must prevail. The creation of a river commission by the last Congress; the appropriation of the sum of \$250,000 by Congress to meet a like sum appropriated by the State, for the purpose of building restraining dams, indicate the interest manifested in the subject of river improvement. Of what avail will be this labor, unless the rivers are so repaired as to take advantage of the light flow of silt?

It appears, therefore, that it would not be inconsistent with the nature of things if the Legislature of the State should make provision for a system of dredger work, such as would build the proper levees and make necessary corrections of waterway. Surely, if the State has been a party to the filling of its navigable waterways, it should, in justice to the farming interests of the State, be the first party to act in the line of relief.

It is our opinion, after due deliberation, that the State and National governments should coöperate in the improvement of the lower river. It is a question that affects as well one branch of the government as the other, viz.: drainage and navigation.

The funds for the construction of the easements mentioned in this report might well be assessed to the lands benefited thereby, which would include the flood lands of the Sacramento Valley, and if there are one million acres so benefited it would cost but  $26\frac{1}{2}$  cents per acre. Certainly this is but a small pittance in comparison to the benefits derived. In fact, would it not justify every man, woman, and child who owns property affected by the proposed improvements to at once put in motion the machinery whereby the work can be perfected?

If the General Government will not undertake the work on the lower river, then must the State do so. It must be done at all hazards, and delay must not be permitted. The work, therefore, may be undertaken in the following manner: The improvement of lower river by concert of action of U. S. Government and State authority; the levee system should be constructed by concert of action between State and land-owner; and the easements should be constructed by the landed interests benefited thereby.

We desire to close this branch of our report with the admonition that



no land-owner in the Sacramento Valley should infer from the foregoing report that we do not appreciate the fact that this report does not include a plan for the complete reclamation of the flood lands of the Sacramento Valley. We are cognizant of the fact that detail work not named herein must be specified whenever a complete system is inaugurated; but we regard it absolutely essential that the reforms herein named must be made before any effective plan of reclamation can be devised.

It is therefore the intention of this report to indicate the leading steps to be taken in order that reclamation may be reduced to a system, and after completion that it will be effective. It is not, therefore, necessary to discuss a detailed system of reclamation at this time.

The perpetuity of all river channels now in use in the Sacramento Valley alike depend upon the deepening of the river from the confluence of the Sacramento and Feather rivers to Suisun Bay. The usefulness of the Feather and Upper Sacramento as water conductors will inevitably depend upon this question; therefore, we have not attempted a discussion of the improvement of these rivers. The relief we confidently expect to obtain from the work suggested herein will be so plain and self-evident that the land-owners of the upper valleys will at once recognize its importance, and a new impetus will be given to systematic plans in river improvement. Let us make the first step sure and in the right direction, and the road will be clear to perfect navigation and complete reclamation.

From the action of Congress and the labors of the new river commission, we will hope for permanent relief from mining debris, and with determined action we will bring our rivers to their original water capacity.

#### THE MONTEZUMA HILLS.

We now come, logically, to a consideration of the long talked of question of a cut through the Montezuma Hills.

At the lower extremity of the Yolo Basin and on the western margin of the same, a low range of hills or high land separates the Yolo Basin from Suisun Bay. Following along the range of these hills we find a comparatively low pass from the head of Lindsay Slough, in Yolo Basin, to Denverton, on Nurse's Slough in Suisun Bay. The flood-waters in Yolo Basin, in 1861-62, attained an elevation of not less than 18.56 feet above low tide in Suisun Bay, at the head of Lindsay Slough, the average high water being, for many years since that time, 14 to 16 feet above the same datum. The elevation above low tide on the summit of the pass above mentioned is about 33 feet. The elevation of the flood in Yolo Basin February 1, 1896, on Lindsay Slough, was none less than 16 feet. It is but natural, therefore, that a preliminary examination of these conditions would suggest that a waterway cut through the hills



at this point would be a complete relief, and render perfect the drainage of the Yolo Basin. This we do not deny, but on the contrary are willing to concede it to be a fact, provided the waterway be made deep enough and wide enough. There is no reason, in the nature of the case, why a deep waterway through these hills will not drain the basin, and so far as the question of the drainage of the Yolo Basin is concerned, when taken by itself, there can be no possible theory advanced that will controvert this fact.

We must, however, in considering the great problem of reclamation and drainage of the Sacramento Valley, conclude, from the reasoning in the report upon the Sacramento River, that no relief can be expected from this source without a new river is made throughout the whole length of the Yolo Basin. The great flood surface of the Sutter, Colusa, and Butte basins cannot be lowered very materially without a deep river-bed in which to discharge their waters. The bed of the Yolo Basin will not lower before the force of any floods we have had in the past, and unless assisted by artificial means cannot be expected so to do in the future.

The question of a relief canal, running on a grade above the natural surface of the tule basin, in our opinion is impracticable. No canal could live, no canal could maintain its water capacity on the higher lands when permitted to receive the flood-waters of the various Coast Range streams that must of necessity enter it on its course from the upper basins to the Montezuma Hills.

Let us now assume, for argument's sake, that the only feasible outlet is through the Montezuma Hills, and let it be understood that we have no prejudice against this proposition—we are earnestly seeking the best and cheapest relief for the suffering people of this great valley.

We will presume that we shall make an excavation through the hills with the following dimensions: Width of bottom, 500 feet; slope of banks, two horizontal to one vertical. That the grade of the cut shall be at least coincident with low tide in Suisun Bay at the entrance of the cut, on the Yolo Basin side. We will further presume that an excavation or channel shall be made from the Yolo Basin entrance of the cut to Cache Slough, a distance of 4 miles northeasterly, of the same width as the cut, and, therefore, with embankments sufficient in elevation to confine the flood-waters to the channel. We will further assume that a channel of equal capacity shall be excavated to low tide in Suisun Bay after passing the hills, a distance of  $6\frac{1}{2}$  miles. Under these conditions, with the surface of the water at the head of the canal 16 feet above low tide, we could expect to discharge at mean tide not more than 26,000 cubic feet of water per second. If the slope of the water surface should be one quarter of a foot per mile, the quantity of water discharged would not exceed 10,000

cubic feet per second, which would be about the facts in the case in time of ordinary flood.

What, then, would be the cost of construction of a canal upon the presumptions above set forth?

According to the surveys and facts in this office, we are convinced the figures would be about as follows:

Required excavation in cut.....	12,608,000 cu. yds.
Required excavation, Denverton to Bay.....	3,177,000 cu. yds.
Required excavation east of cut.....	2,000,000 cu. yds.
Total excavation.....	17,785,000 cu. yds.

In the report of Isaac W. Smith, Chief Engineer Sacramento River Drainage District, dated November 28, 1879, page 19, he says: "Borings to high-tide level through the Montezuma Hills demonstrate the fact that there is a narrow ridge of soft sandstone toward the southern margin."

The same authority estimates that it will cost not less than 25 cents per yard for excavation of earth.

If it is true that a sandstone ridge should be encountered in the excavation of the channel, then we may expect the cost per yard to be much greater; but assuming that it would cost but 25 cents per yard, the cost of construction would be as follows:

Excavation of cut.....	\$3,152,000
Excavation outside of cut.....	1,294,250
Total cost of excavation.....	\$4,446,250

We believe the above example will make it plain that a shallow waterway will not give the relief required, even were the funds available with which to construct the same. This artificial channel can be made as deep as any other by means of the scouring power of the water, provided it runs through and over a soft formation; but there is the strongest evidence that a rock formation will be encountered, and when that is the case the water will cease to be effective as a deepening agency.

Should we construct a canal on the lines above described, we can come to no other conclusion than that we will have produced an outlet of sufficient water-carrying power to discharge not more than  $\frac{23}{91}$  part of the flow of the Sacramento and Feather rivers into Yolo Basin during their flood period for February, 1896, and that the surface of the flood-waters must remain at 16 feet above low tide in order that the canal may do the work, and this at a cost of \$4,446,250.

If we double the width of the canal we will at least double its cost, or we may expect a canal 1,000 feet wide on the bottom to cost for construction not less than \$9,000,000. This canal, unless it could be made deep by the scouring power of the water, would not discharge more than 52,000

cubic feet of water per second, or a little over one half as much water as was entering the Yolo Basin during the flood of February, 1896.

We have seen from the discussion of the improvement of the lower Sacramento River that, by the single act of removing the Newtown shoals, at an expense of \$500,000, we could expect, under the same conditions of flood-water above described, to discharge 72,000 cubic feet per second more than the river can now discharge. In other words, with an expenditure of one eighteenth part of the money, on the present river, we can increase the outlet capacity of the lower river, at the same stage of flood-water, 20,000 cubic feet per second more than the artificial canal will do under the most favorable circumstances, and with a width of 1,000 feet on base.

We, therefore, are free to confess that the Montezuma Hills cut will, in our opinion, serve the purpose of a drainway for the Yolo Basin, provided you make it wide enough and deep enough, and that you expend millions of money to perfect the work.

The cost of the enterprise is not the only objection that may be entered against the scheme at this time.

The discharge of any water through the hills means the reduction of the volume of water to be disposed of in the present river. According to the law laid down by authorities, the greater the volume of water introduced into a silt-bearing stream, the greater will be its scouring power; therefore, any water diverted from the present outlet of Yolo Basin will thereby reduce the scouring power of the river from the foot of Grand Island to the bay, and should a time come when the artificial outlet will discharge the surplus waters of Yolo Basin, it is safe to say the river from Grand Island to Suisun Bay will again silt as it did from 1860 to 1878, and not only the water capacity will be destroyed, but navigation will be materially injured.

Again, it must be remembered that we do not shorten the route of water-line by this new channel. Water will not flow unless it has sufficient fall to do so. Therefore, whenever this new channel is opened, the flood-water will take the required slope to discharge the capacity of the canal, and instead of the water being of an elevation of 16 feet above low tide at Lindsey Slough, it will not attain this elevation until some distance above the entrance of the cut. The surface of the flood-water will not be lowered very materially above the point of grade now produced by the present outlet, so that the real distance the water must travel to the bay by the new line will be about the same as it now runs to Collinsville. If, however, we can succeed in introducing the greater portion of the flood-waters of the Sacramento Valley into the Sacramento River, at the confluence of the Feather and Sacramento, and conduct them to the foot of Grand Island, why should we permit the waters



here to divide, to the detriment of the river? We need all the power we can aggregate at this point to keep clear a deep river to the bay.

During the flood of 1896, the Yolo Basin water stood at an elevation of 28.18 feet above low tide at Elkhorn Ranch. This elevation of water was sufficient to fill the basin from base of river levee to high land on the western margin of the basin. If, therefore, the majority of the flood-waters must pass down this basin, the outlet being at tidewater, running over a rough bed, as it does at present, the outlet will cut but little figure in the devastation of property along the margin of the river and west-side tule lands, so long as so large a body of water is permitted to escape into the Yolo Basin. The vastness of the flood-wave itself will fill the tule from river to high land, rendering safety beyond hope, except by the construction of a new waterway properly aligned and with embankments of such grade and elevation as to confine the water to a reasonable channel. If this condition shall prevail, as already stated, in the consideration of the question of the improvement of the Sacramento River, the flood line must necessarily be raised instead of lowered.

Therefore, we can see no permanent relief to come from a cut through the Montezuma Hills. It would facilitate the discharge of the lower basin, but in doing so would rob the river of one of its most effective forces; namely, the power supplied from the Coast Range streams in flood time, as well as the conservation of the force of all escaping waters from the extreme river floods.

If all hope is to be abandoned in the direction of maintaining drainage and navigation on the Sacramento River, then, and not until then, should the Montezuma Hills cut be considered.

### THE SAN JOAQUIN RIVER.

The State of California is celebrated for two distinctive features when considered geographically and topographically. It includes within its boundaries two great valleys: the one the Sacramento, the other the San Joaquin. A description of the former has already been given. The San Joaquin Valley, so called, extends from the Mokelumne and Cosumnes rivers south a distance of about 250 miles, and has an average width of over 40 miles.

The San Joaquin River, entering the valley from the Sierra Nevada Mountains, near the head of the valley, runs in a northerly direction until it joins the Sacramento River near Collinsville, at the entrance of Suisun Bay. From the mouth of the San Joaquin River to a point thereon known as Paradise Cut, the river is skirted on either side by a vast area of low land, some of which has already been reclaimed from periodical overflow.

The same unsystematic plan of reclamation has been adopted in this



valley that we find in the Sacramento Valley. Thousands of dollars have been expended in an attempt to reclaim the swamp lands of this valley, resulting, in some few exceptional cases, in the partial reclamation of certain portions of the land. The majority of work has been a failure, owing, as we believe, to the want of a knowledge of the elementary principles of the problem.

Mr. Hall made a survey of this river and its tributaries in 1878-79, and this is the only reliable data at our hands with which to form any conception of the intricacies of the problem. It is unnecessary to say that one single set of observations, made seventeen years prior to this time, is inadequate to a proper consideration of the drainage and reclamation of the lands subject to inundation in this valley. Physical changes have taken place, new channels in some instances have been formed, the condition of the river-bed is unknown, and no data of late date have been collected by means of which comparisons might be made, and whereby some of the laws governing the flow of the flood-waters might be determined.

The money appropriated by the last Legislature, and available for these purposes, was found, upon inspection of the labor to be performed, to be inadequate to accomplish the task, and therefore only such work as could be done to advantage was undertaken.

A preliminary examination of the San Joaquin River presents conditions which would indicate the need of a general plan of river improvement.

The consideration of navigation enters largely into the question, and a study of flood relief involves as well the importance of deep waterways as does the safety of lands from overflow.

We have seen in our discussion of the problem of deepening the Sacramento River, that all the available power of flood-waters should be conserved in order that the river might better its condition. We are convinced, from our partial examination of the San Joaquin River, that the same principle will apply as well to this river as to the Sacramento.

The importance of the City of Stockton, like the City of Sacramento, as a center of great shipping interests, impresses itself so strongly upon us that we are compelled to recognize the importance of a deep-water channel for this river. The question, therefore, of most import is, how to maintain a deep, well-defined waterway from the Bay of Suisun to the City of Stockton, and how to continue this channel up the San Joaquin River as far as possible, in order that the great resources of the valley may assist in the up-building of a deep-water shipping point. We greatly mistake the indications of what the future may be, if we are not justified in predicting for the City of Stockton a future second to none in the State, demanding and receiving a harbor where ocean mer-

chantmen may be laden with the products of the great San Joaquin Valley, destined to set their sails in the sunlight of this fair city, only to be furled when their journeys across the sea have ended and the fruits of this prolific land shall satisfy the wants of some foreign country.

The floods of the San Joaquin Valley do not, as a general rule, occur at the same time as the floods of the Sacramento Valley. It is a matter of general history, however, that the flood of 1861-62 was equally extensive in the San Joaquin and Sacramento valleys.

The only gauging station on the San Joaquin River that has been maintained for any consecutive number of years, with accuracy, is the one located at the Southern Pacific Railroad crossing of the river between Stockton and Banta. This station is in charge of Mr. B. L. Remington, a very reliable man, through whose kindness we are permitted to give the following tables of the stages of high and low water:

*Table Showing Extreme Flood Periods of San Joaquin Valley.*  
(As indicated by gauge-readings at San Joaquin River Bridge Station.)

Year.	Month.	Gauge-Reading.	Elevation above Low Tide.
		Feet.	Feet.
1879.....	June 8.....	13.9	19.288
1880.....	June 5.....	16.6	21.988
1881.....	February 6.....	17.1	22.488
1882.....	June 6.....	15.35	18.738
1883.....	June 2.....	14.3	19.688
1884.....	March 11.....	17.5	22.888
1885.....	November 27.....	14.4	19.788
1886.....	January 27.....	16.65	22.038
1887.....	June 2.....	13.90	19.288
1888.....	May 5 and May 16.....	12.85	18.238
1889.....	December 26.....	15.15	20.538
1890.....	May 30.....	17.15	22.538
1891.....	May 22.....	15.10	20.488
1892.....	June 1 and June 4.....	16.7	22.088
1893.....	June 22.....	17.4	22.788
1894.....	February 22.....	17.4	22.788
1894.....	May 14.....	17.4	22.788
1895.....	May 19.....	17.8	23.188

*Table Showing Extreme Low Water Periods of San Joaquin River.*

(As indicated by gauge-readings at San Joaquin River Bridge Station.)

Year.	Month.	Gauge-Reading.	Elevation Above Low Tide.
		Feet.	Feet.
1879.....	October.....	0.07	6.088
1880.....	November.....	1.25	6.638
1881.....	October.....	0.90	6.238
1882.....	Sept. and Oct.....	1.30	6.688
1883.....	Sept. and Oct.....	1.00	6.388
1884.....	December.....	2.70	8.088
1885.....	October.....	0.75	6.138
1886.....	November.....	1.40	6.788
1887.....	November.....	0.45	5.838
1888.....	Oct. and Nov.....	0.70	6.088
1889.....	Sept. and Oct.....	0.60	5.988
1890.....	Nov. and Dec.....	3.60	8.988
1891.....	Oct., Nov., and Dec.....	1.60	6.988
1892.....	Oct. and Nov.....	1.25	6.638
1893.....	Oct., Nov., and Dec.....	1.10	6.488
1894.....	Oct. and Nov.....	1.40	6.788

From the foregoing tables we observe that, for seventeen years, there have been but two in which the period of high water occurred in the fall of the year. One year, 1881, the high water came on February 6th, and in 1894 on February 22d.

All other high-water periods have taken place in March, May, or June. There is, therefore, some truth in the statement that the floods of the San Joaquin River take place generally in the springtime.

How important must it seem that a system of gaugings should be maintained upon this river. No engineer can make an intelligent report upon the requirements of the problem until this is done. It is true that the record shows that the majority of years give a flood season at a different time than in the Sacramento Valley. The record also indicates that there are floods in the San Joaquin Valley coincident with those of the Sacramento. The engineer is, therefore, not justified in basing his conclusions as to the best plan of reclamation for the San Joaquin Valley upon the hypothesis that a flood will not occur which shall be equally extensive and disastrous in both the Sacramento and San Joaquin valleys.

The condition of the flood-basins has been so materially changed by the artificial works of man that the effect of a simultaneous flood in both valleys would be quite different from what it was in the early history of the State. New waterways have been formed; rivers that in early times were deep and well preserved are now largely choked with sedimentary deposit; in a word, the old lines of drainage have become so changed that new conditions confront the engineer on every side, and therefore another solution to the problem may be demanded. This question, therefore, cannot be determined intelligently without a full knowledge of all the agencies now at work.



The Sacramento River system has, by the artificial works now constructed, apparently isolated itself from the San Joaquin system; but how long these artificial works will prevent the Sacramento River from joining the San Joaquin at a point on the last-named river above Collinsville, is a question to be determined by the improvement of the Sacramento River and the magnitude of our floods.

It is a fact that, during the flood period of January and February, 1896, in the Sacramento River, the flood-waters at the town of Isleton attained an elevation of 14.35 feet above low tide, while the elevation at high tide in the San Joaquin River, only 3 miles distant, at the same time, had an elevation of about 8 feet. The gauge at Walnut Grove, on the Sacramento River, during the same flood period, registered 15.78 feet. The flood elevation in the Sacramento River at Isleton was 10.7 feet above low tide, and at Walnut Grove 13.7 feet in 1878; hence, by the study of these conditions, we may begin to wonder what would be the results upon the San Joaquin River of a large crevasse in the bank of the Sacramento River at either of the points above named; or, should the east bank of the Sacramento River, from any cause whatever, during flood period, give way and permit a vast amount of its volume to flow across country to the Mokelumne River from Courtland or thereabouts, it is not difficult to understand that this would very materially affect the flow of water in the San Joaquin River. What is required, therefore, so far as the study of flood periods on the San Joaquin River is concerned, is to retrace the surveys of Mr. Hall, collect all the data possible regarding the flow of the waters under the various conditions that may arise, and then we may be able to consider the problem intelligently.

The question as to the best method of the disposal of the flood-waters of the Mokelumne River demands most serious consideration, as it is a constant menace to the best interests of the City of Stockton. It may be a very grave question as to whether this branch of the San Joaquin Valley system should be permitted to discharge its flood-waters through the City of Stockton. Certainly there is no reason, that the most skeptical can advance, for the continuance of the present unprotected condition of this great city.

All of these problems require the minutest consideration, both in plan of location and in construction, in order that the work may be well done.

The table showing low-water elevations at the San Joaquin bridge indicates one very important feature, viz.: that the low-water line has not increased to any extent in elevation during the years of observation. In fact, we may conclude that it is practically the same as it was in 1879. We must, therefore, conclude that very little, if any, silting has taken place in the San Joaquin River. It is a fact, established by general observation, that the quantity of silt held in suspension in the flood-



waters of the San Joaquin River is very much smaller than that of the Sacramento River. If the bed of the river is of a silt formation, there can be no reason advanced to combat the principle of river-deepening on the San Joaquin River. The question is simply the concentration of the waters into such a channel as will utilize the full scouring power of the volume of water.

There can be no argument advanced in the light of the facts set forth in our report upon the Sacramento River, justifying the elevation of low water at San Joaquin bridge. We can see no reason why the San Joaquin River should not be a deep tidal river, even beyond the location of the San Joaquin bridge.

It is simply a question in this case, as it is in the case of the Sacramento River, of making use of the power of water to do the work.

The rectification of the alignment of the river is a very important feature in the improvement thereof. Not only is this true as to the improvement of its drainage capacity, but also for the betterment of its navigability.

It was our privilege to measure the flood-flow of the San Joaquin River during the spring flood of 1895. The river at the time of gauging and measurement of flood-flow had attained the greatest elevation known since the history of observations have been recorded. The waters could not be measured in one stream, but a careful measurement of each branch or division was made, and from the results of that observation we are able to give the volume of flow passing into the delta division as about 35,000 cubic feet per second. This, it appears, is the resultant flow of all the various streams of the San Joaquin Valley. Through the kindness of Mr. J. B. Lippincott, Hydrographer for California in the Department of the Interior, United States Geological Survey, we are informed from the records of that department of the following ratings of the San Joaquin River and its tributaries:

Stanislaus River for June, 1895 .....	8,510 sec. ft.
Tuolumne River for June, 1895 .....	12,530 sec. ft.
San Joaquin River for June, 1895 .....	14,565 sec. ft.
Total discharge .....	35,605 sec. ft.

The observations on the Stanislaus River were taken at Oakdale, those on the Tuolumne at Modesto, and those on the San Joaquin River at Herndon. The observations of current velocity, we are informed by Mr. Lippincott, were made by the use of current meters, while the observations of the Commissioner of Public Works were conducted by a system of surface and double floats. We are, therefore, inclined to the opinion that the two systems of observations have determined, quite accurately, the volume of flood-water of the San Joaquin River at a time when the gauge at the San Joaquin bridge and the gauge at Paradise Cut indicated the highest water recorded at those stations.

At the time of the observations made by this department, there was passing under the bridge at the gauging station where the Southern Pacific Railroad crosses the San Joaquin River, between Banta and Stockton, not more than 18,260 cubic feet of water per second, with an average velocity of 3.33 feet per second; leaving 16,740 cubic feet per second to pass out of Paradise Cut and other escapeways in the banks of the river.

A rating of the flow of the flood-waters of the San Joaquin River, at a point near the City of Stockton and just above the drawbridge passing over said river from Stockton to Roberts Island, indicated the passing of 8,000 cubic feet of water per second, with an average velocity of 3.25 feet per second.

From the facts above stated, we see that in the vicinity of Paradise Cut the river loses nearly one half of its volume of water in flood time, and that by the time the waters have entered the channel leading to Stockton and vicinity, and before they enter the Burns cutoff, the river has lost over 10,000 cubic feet per second more, or, in other words, the channel at the Roberts Island bridge has lost all but eight thirty-fifths of its flood volume, and therefore a proportional part of its working power.

These are not satisfactory conditions, either for river improvement or for reclamation, and hence we desire to impress upon your mind the importance of the rectification of these evils. We cannot intelligently discuss this question without a knowledge of all the facts in the case, and this can only be done by a thorough survey, which, from the best of our judgments, cannot be accomplished for less than an expenditure of the sum of \$25,000.

## THE DAWN OF A NEW ERA.

We cannot close this report without directing your attention to one of the most important inventions of the nineteenth century. The greatest problem now confronting the civil engineer is, how to prepare rivers for the reception of flood-waters in order that the full effect of the volume of the water may be realized. If the waters can be introduced into a single channel of uniform capacity, and of such dimensions as will conduct all the flood-waters of either the Sacramento or San Joaquin Valley safely to an outlet, it is certain that we will have no more shallow rivers. We will have a better condition of navigation and a vastly improved system of reclamation. The cost of moving earth has heretofore been so great that the question of deepening rivers—enlarging their capacity by mechanical means—has been, to some extent, avoided by the engineer. We therefore take pleasure in calling your earnest attention to a dredging machine that has been constructed in the past

year which bids fair to revolutionize the methods of handling earth in river-beds, the correction of faulty waterways, and ultimately giving to mankind the engine of hope with which to construct the foundation of untold prosperity.

Your attention is therefore directed to a consideration of the possible simple solution of drainage in California by the use of a new dredger just constructed by Mr. L. W. Bates.

A correspondent of the Chicago "Times-Herald" says:

"An engineering revolution of inestimable value to mankind has just been effected by Mr. L. W. Bates, of Chicago. What he has done may be described in a few words, but every word is pregnant of important results to commerce, transportation, the spread of civilization, and the conquest of the earth by restless man. He has solved the problem of deepening shallow rivers, so that innumerable streams now unused by commerce may become highways of cheap transportation. He has solved the problem of canal-cutting at a cost low enough to insure the commercial success of the Nicaragua project, and ultimately of many similar plans for uniting sea with sea. He has assured the permanence of a navigable channel in the Mississippi River from St. Louis to the Gulf of Mexico without the expenditure of millions of money. He has prepared the way for the opening of a water route of incalculable value from Chicago to the sea through the drainage canal, the Illinois River, and the Mississippi."

Further on the same writer says:

"It was not long before Mr. Bates was sent for by the Mississippi River Commission Government Board, which had been struggling for years with one of the greatest modern problems, that of keeping a depth in the 'Father of Waters' sufficient to permit even light-draught steamers to ply between St. Louis and New Orleans. Twenty millions of dollars have been spent for this purpose, and in a recent official communication the Secretary of War said the only result was eighteen inches more of water for a distance of fifty miles. This discouraging result was not the fault of the Commission, which had done as best it could with the means at its command, and it really overcame many great obstacles. It was to the credit of the Commission that it alertly, and in disregard of the traditions with which it was more or less incumbered, sought out the young man who had achieved so much on the drainage canal, and asked him to build a hydraulic dredger for use in deepening the Mississippi. In fact, the members of the Board builded wiser than they knew. They were after an improvement, but they have found revolution.

"Mr. Bates built a machine under contract. He was to have \$172,000 for it if it should be found capable of removing 1,600 cubic yards of earth per hour. If it was able to remove 2,400 cubic yards, he was to have a bonus, or premium, of 50% of the contract price. The official tests have just been finished near Memphis, and his great dredger has demonstrated its ability to do things that are well-nigh incredible, but they are official, and must be believed. An average of the tests in ordinary river sand, according to the requirements, gave results of a little over 6,000 yards per hour. The maximum was as high as 7,793 yards. Mr. Bates, therefore, gets his bonus of \$86,000, which he has been in Washington arranging to receive from the Treasury. If, however, he were paid according to the capacity of his machine pro rata, he would receive the enormous premium of \$500,000.

"In other words, this machine will go through a sandbar at a speed of from 5 to 10 feet a minute, cutting its way through a solid bank and leaving behind it a channel 40 feet wide and 20 feet deep, etc.

"In front of the machine are six intake pipes turned downward. Surrounding each of these is a cylinder fitted with knives, which is kept in revolution all the time, so that the knives cut and chew up the sand and mix it with the water. This process, it should be remembered, goes on all around the intake pipes, and in these pipes the suction of great steam-driven centrifugal pumps is pulling away at the loosened mass of sand and water. It is easy to imagine the result. Great solid streams of debris flow in the pipes



at a rapid speed. The hydraulic engineers have calculated the speed to a nicety. They know to the fraction of a foot what speed the current must have through those pipes in order to carry the sand in solution.

"This is the way in which the hydraulic dredger steams up to a sandbar, attacks it, cuts its way through, almost without an effort, and is then ready for the next one. There is not a bar on the Mississippi which it will not go through in three hours when fitted with self-propellers, or tenders. These bars are usually 1,500 or 2,000 feet across. It is not necessary to remove them altogether. The bed of a river traversing an alluvial country is a series of long pools separated by bars which have formed between them. It is not necessary to remove the bars en masse, but only to cut a channel from pool to pool through which the steamers can pass. When the channel is once cut the river will widen it by natural means, etc.

"Thus the problem of maintaining a channel in the Mississippi River at low water is solved. Where there is now but  $4\frac{1}{2}$  feet of water in the autumn, there will be, after a few of these dredgers have been put to work, 14 feet. In two years it is possible to have 14 feet of water from St. Louis to the sea every day in the year. Five hydraulic dredgers will do the work, if employed four or five months a year, at a cost of \$10,000 a month each. This is almost magic—modern magic.

"The significance of this achievement is that the problem of maintaining low-water navigation in all alluvial streams is solved. It is applicable to the Missouri, to the Illinois, to the Sacramento, to the Volga, to the Danube, to the Dnieper, to the Hoogly in India, to the La Plata, to rivers in all parts of the world. It is fair to predict that no invention or achievement, since the development of steam navigation, has done as much for water transportation upon rivers as this successful application of hydraulics to river-bed dredging will do in the near future."

It is not necessary for us to further comment upon the possibilities of this great machine. The field for such a monster earth-eater, in California, is broad, and the conditions demand the immediate action on the part of the State authorities. If we had a machine that would do the work claimed for the dredger just described, the Newtown shoals would disappear in thirty to fifty days, at a cost not to exceed \$10,000 or \$20,000. Horseshoe Bend would become a gentle curving river, deep and self-preserving. All the advantages claimed for the deepening of the Newtown shoals, in the previous consideration of that subject, would dawn upon the people of this valley so suddenly that the best informed would stand in wonderment at the great effect of the work. The restoration of the river would no longer be a question involved in theories of engineers, but in a very short time the radical predictions of the most skeptical would disappear in the whirl of progress. Combine the power of the flood-waters with the energy of a Bates dredger, and the lowering of the flood line of the Sacramento River is assured.

The San Joaquin River will become a deep tidal waterway, over which ships of heavy tonnage will pass without difficulty to the City of Stockton. Every creek and branch leading to the Bay of San Francisco may be converted into a navigable stream. San José, Petaluma, Napa, and all important cities on the tributaries of the Bay of San Francisco will be united with the ocean over a deep ship channel.

Sacramento City will realize the fact that screw propellers can reach her water front instead of the antiquated stern-wheelers that now ply the waters of the Sacramento River.



The shoals in every shallow river will disappear, and the friction now existing between the miners and farmers will be a thing of the past.

These things cannot all be accomplished in a day, or possibly in a year or years, but surely for California it predicts a *new era*.

We therefore desire to bring to your attention this important invention, and ask that the Governor of this great State be importuned to present the question of the advisability of constructing one or more of these machines to the Legislature of this State, and that a sufficient appropriation be provided therefor.

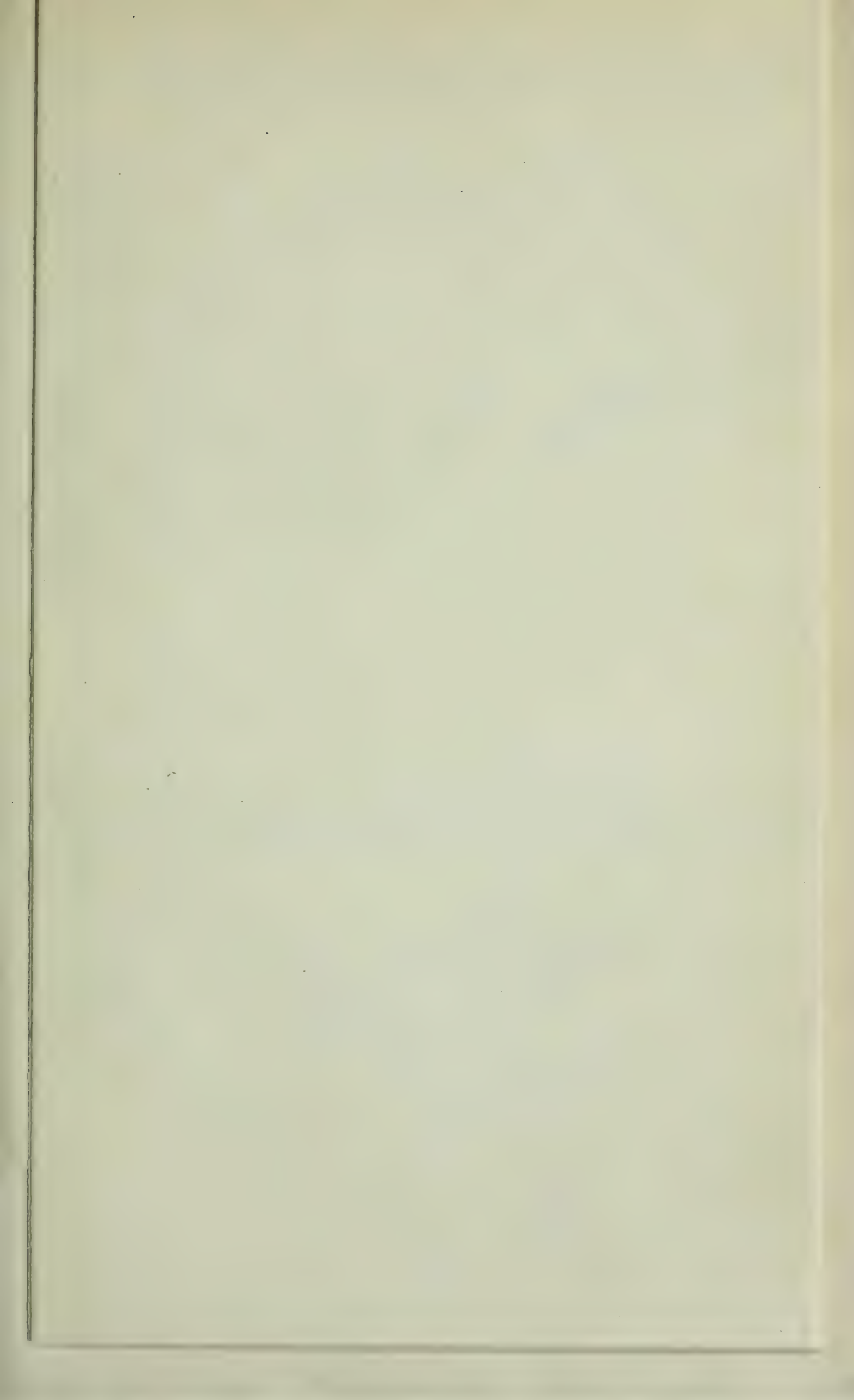
No delay will be justified upon the grounds of seeking National aid. The General Government may construct such machines for her purposes, but that will not satisfy the requirements of drainage in California. The State of California should undertake the task of self-protection, and not rely entirely upon the General Government for assistance.

Believing that some action will be taken in this line, the matter of building levees to confine the flood-waters of the Sacramento River within its natural stream in times of ordinary flood will so be reduced in expense that the cost of the dredger will be nearly covered in this one item enumerated in our estimates in this report. It should be a property of the State, and controlled by the authorities of the State, to be used in developing a general plan of drainage and reclamation.

Believing that we have directed your thoughts to some practical methods of the solution of the questions submitted to us for consideration, we are

Very respectfully,

J. R. PRICE,  
Chief Engineer.  
M. A. NURSE,  
Assistant.



Collinsville  
Little  
Lake  
Vista

# PLAN of SHORELINE

Sacramento River via Steamboat Slough

From Collinsville to Kerchival's

Longitudinal Scale 4000 feet to one inch.

Transverse " 300 " " " "

Rio Vista

Loise Tree  
Island

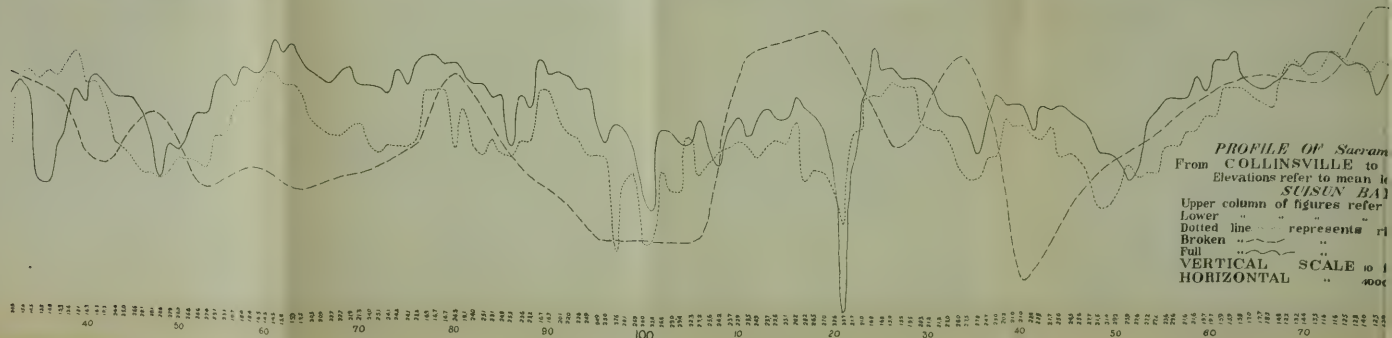
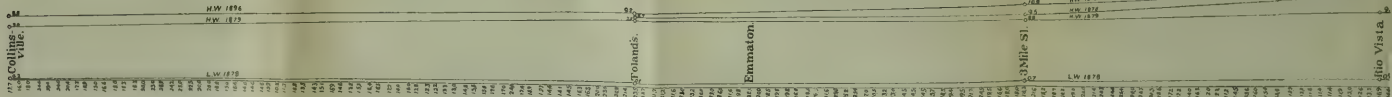
Tolands

Horse Shoe  
Bend

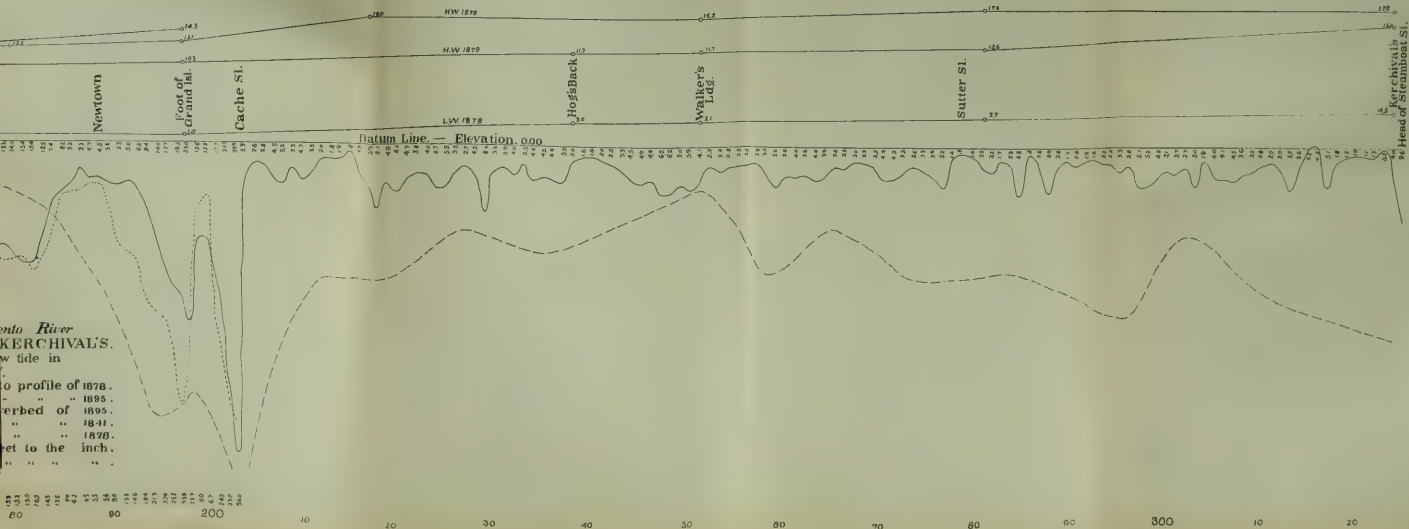
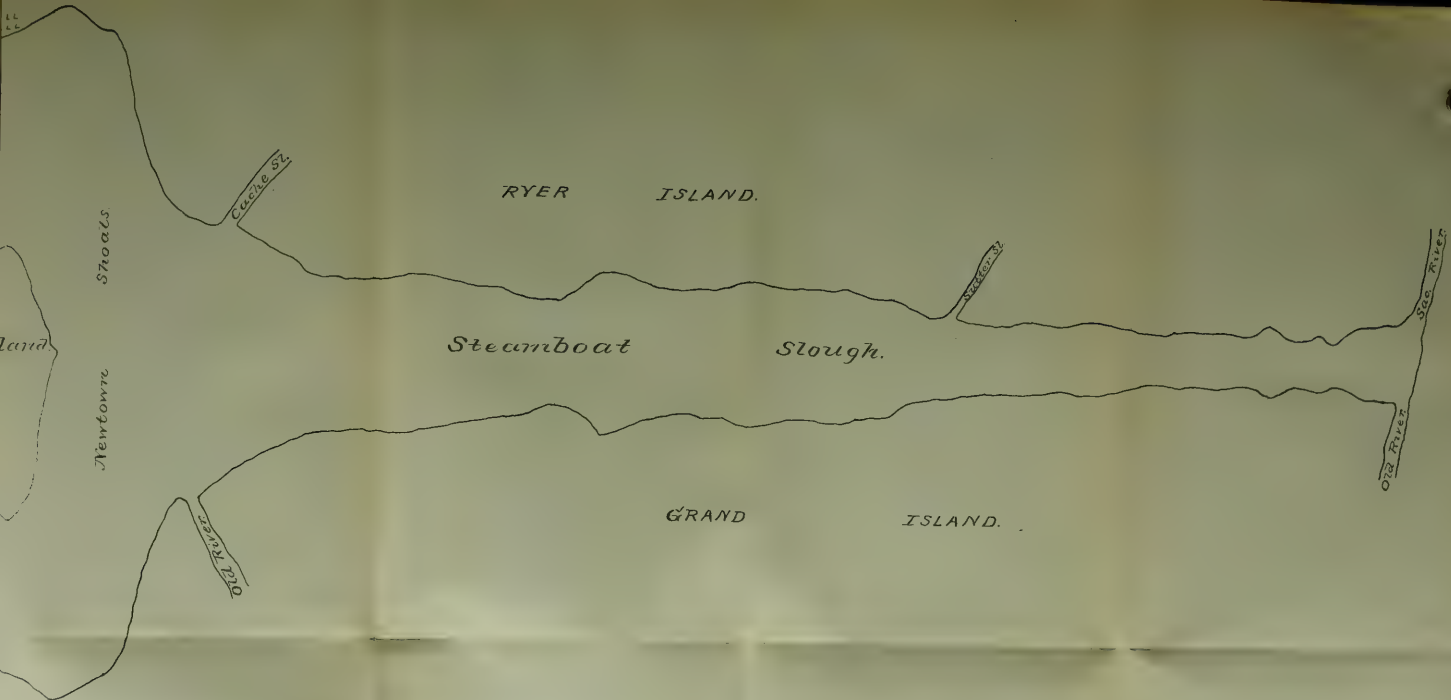
Wood Is

Entrance

3 Mile St.



PROFILE OF Sacramento River  
From COLLINSVILLE to KERCHIVAL'S  
Elevations refer to mean low water  
SUSUN BAY  
Upper column of figures refers to  
Lower column of figures refers to  
Dotted line represents river bed  
Broken line represents river bank  
Full line represents river channel  
VERTICAL SCALE 10 feet  
HORIZONTAL SCALE 1000 feet



onto River  
KERCHIVAL'S.  
w tide in

o profile of 1878.  
" " 1895.  
erbed of 1895.  
" " 1891.  
" " 1878.  
et to the inch.  
" " "





SACRAMENTO, CAL., January 26, 1897.

HON. JAMES H. BUDD, *Governor of California*:

SIR: On your request, the engineers of this Department were directed to investigate the present water-supply at the Home for the Care and Training of Feeble-Minded Children, and the probability of developing a greater supply, and also the possibility of establishing an electric light plant of sufficient capacity to furnish all the light and power necessary for the institution.

I have the honor to submit herewith the result of the investigations made by Chief Engineer Price.

Respectfully,

ED. E. LEAKE,  
Commissioner of Public Works.

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HON. E. E. LEAKE, *Commissioner of Public Works*:

SIR: Having been duly instructed by you to investigate the water-supply of the Home for the Care and Training of Feeble-Minded Children of the State of California, in conformity with the request of Governor James H. Budd, I have to report as follows:

I arranged a meeting with the trustees of said institution, and, after making a preliminary examination of the question, decided that a complete survey must be made in order to determine what changes, if any, would be necessary, and what other recommendations might be made that would be advisable in the premises.

I have completed said survey, and the result is a change in the present line of supply pipes, and the presentation herewith of maps and profiles, showing a general plan for an electric light plant.

The survey developed the fact that the water from the springs, from which the institution derives its supply, had been dammed up over their outlets, thus retarding the flow. It was considered advisable to relieve the springs as much as possible, and we therefore recommended the laying of a new line of pipe from the springs to the storage reservoir, which would take its water at a point several feet below the surface of the springs, and from a concrete reservoir supplied directly by the springs.

This concrete reservoir has been constructed, and a new line of pipe laid to the storage reservoir. Much trouble has been experienced in keeping the old line of pipes clear of air, due in a great measure to the contour of the line over which it runs. The new pipe-line is so located that I feel confident this vexation will be almost totally avoided.

The investigations conducted by me to ascertain the possible maximum supply of water from the Roulett Springs (so called) resulted in the justification of the conclusion that the springs, in the dry season of the year, would not deliver more than 60,000 gallons of water every twenty-four hours; that at least 20,000 gallons escaped below the intake pipe and, under the old system, was totally lost, so far as the supply of the institution was concerned. It was also evident that, by the lowering of the point of entrance of the supply, the springs would discharge a much greater quantity of water, and indications point to a possible supply of 100,000 gallons every twenty-four hours. It was for these reasons that I recommended the laying of a new line of supply pipe and the construction of a small reservoir that would catch all the water discharged by the springs. By adopting this course, many springs that up to this time have been smothered or checked in their flow, may be developed. A thorough trenching and collection of the water have been made, with valuable results.

I also advised the board of trustees of said institution to construct a storage reservoir some 500 feet below the Roulett Springs, which was calculated to store at least 5,000,000 gallons of water. Plans for a dam to create this storage reservoir were prepared, and bids made upon the construction of the same, but for reasons known to the trustees the construction of the dam has not been authorized. The supply to this storage reservoir will come from the catchment area above it, including a ravine that discharges about 20,000 gallons of water every twenty-four hours in the driest part of the season, but which, I believe, by development, can be made to double its flow. Asbury Cañon water can all be conducted to this reservoir, should the institution so desire. It is safe to say that should all these water-supplies be conducted to this reservoir, together with the Roulett Springs supply, the Home could command from this source alone at least 200,000 gallons of water every twenty-four hours, and that in the driest part of the season.

The water-supply system, as it now stands, consists of a small reservoir just below the outlet of the Roulett Springs, with a capacity of about 16,000 gallons. The new supply pipe enters this reservoir through a concrete wall, and taking up the water, conducts it to a storage reservoir made of concrete. The supply pipe is of four-inch bore, heavy screw joint, with proper blow-offs and air-valves. The length of the pipe is 4,630 feet, with a total head of about 144 feet. It is estimated the pipe when running full will discharge about 250,000 gallons of water every twenty-four hours.

We are persuaded that the new system will give at least a supply three times greater than the old waterworks, being so arranged that neither surface nor rain water will interfere with the spring flow.

The storage reservoir which has been erected and operated with the old system, will hold at least 150,000 gallons of water. From this reservoir the main supply pipe to the buildings of the institution distribute the water for all domestic purposes, and for flushing sewers.

It is estimated that it will require about four hours for the main supply pipe to exhaust the storage reservoir; provided, the reservoir is full at the time of opening. This supply of water would probably be ample to extinguish any fire that might break out in the buildings, but it must be conceded that a far better protection would be given if the 5,000,000-gallon reservoir were constructed and connected directly with the supply pipe from the concrete storage reservoir.

By an inspection of the map, presented with this report, and forming a part thereof, it is shown that Asbury Creek branches before reaching the Roulett Springs. The main and westerly branch forms the boundary line of the property of the Home. To the west of, and at a greater elevation than the Roulett Springs, the westerly branch of Asbury Creek emerges from a steep watershed, supplied by various mountain springs, and during the dry season, discharges no less than 60,000 gallons of water every twenty-four hours. The water is pure and healthful, emerging as it does from a high range of hills covered with sequoia and other forest trees indigenous to the higher altitudes. In fact, it is one of nature's garden spots, suited admirably, as it is, for the soothing of a feeble or distracted mind. The shade of the trees keeps the trickling water cool, rendering it delicious and palatable in the warmest summer day. It is, therefore, very important that the timber should be preserved, not only for beauty, but also to prevent rapid evaporation during the hot summer days. It would be advisable for the trustees of this institution to take steps to procure this supply of living water, and introduce it into the Roulett Springs system.

By an inspection of the map presented with this report, it will be observed that I have made a contour survey of the land adjoining the buildings, which will become very useful in locating new buildings, determining questions of sewerage, and the location of irrigation ditches and checks.

I believe a complete contour survey should be made, embracing all these lands, thus giving the altitude of every point on the premises. From such a survey, the location and grade of every proposed road on these premises could be accurately determined upon lines indicating the most economical location.

The present road system of the institution, by means of which the products of the hill lands are brought to points of consumption, is of the



crudest construction, and entails the expenditure of a vast amount of unnecessary labor and force. It would cost the State but very little money to perfect this work under the direction of the Commissioner of Public Works, and I feel justified in urging upon the proper authorities the importance of this question.

It is desirous that a change should be made in the lighting and supply of power to the institution, and for that purpose an investigation has been conducted by me with a view to establishing an electric light and power plant. In this investigation I am convinced that a plant can be established with successful results.

By an inspection of the map herewith presented, it will be observed that the lands of the Home are exceedingly changeable in elevation, and therefore susceptible of producing great water-power, provided the water can be obtained. An inspection of the watershed of the lands convinced me that a good water-supply might be developed, if a site for a storage reservoir could be found. Nature has generously provided an admirable site, and on the slope of the mountain side is a natural reservoir site, marked on the map as "Laguna Reservoir." This "laguna," as it is called, was at one time a tule lake, which has been drained and converted into a fertile garden, where all the vegetables supplying the institution are grown. It has an area of 11 acres which, with a dam at either end, will impound a body of water from 10 to 20 feet deep. No extensive cañon feeds it, but it will have sufficient watershed to fill it during the winter season. It is exposed to no danger from heavy rainfall, and by a proper spillway will never give any trouble, either from silting or excessive overflow. The supply pipe would have a head from this reservoir to the power plant of 327 feet at lowest stages of water in the reservoir, thus giving a very effective water-power. A ravine entering the reservoir site contains several living springs, which at their minimum flow will give at least 20,000 gallons of water per day.

I would recommend the laying of a ten-inch water pipe from the site of the "Laguna Reservoir" to the cañon south and east of the same, known as "Hill Arroyo." This creek, which runs through the lands of the institution nearly its whole course, will supply to the reservoir during the dry season at least 40,000 gallons every twenty-four hours. From the first of November to the first of July this cañon will supply all the water required to run the power plant every hour in the day, if necessary; hence, it is advisable that these waters should be conducted to the reservoir in a ten-inch pipe. The length of this line of pipe will be about 2,300 feet, with a total head of about 70 feet. The reservoir, as shown on map herewith presented, will give a supply of 50,000,000 gallons, less loss by evaporation and seepage. It is fair to presume that the supply from the sources above named will at all times more than provide for the evaporation and seepage of the water in the reservoir;

hence, we may figure upon a basis of 50,000,000 gallons from the beginning of the dry season to the end of the same.

It is estimated that it will require 500 incandescent lights, 16 candle-power, or their equivalent, to light the institution during certain hours of the night. We will say that they must burn from 7 to 10 o'clock in the evening during summer months; all other months they may burn from one day's end to the other, if necessary. From 10 o'clock until morning of the next day it will require not more than one half the lights. If we estimate that it requires 50 horse-power to produce electricity for 500 lights, then it will require 120 cubic feet of water per minute on a twenty-four-inch wheel, the water running with a velocity of three feet per second, which can be obtained from the proposed reservoir to the point where the electric plant is to be located. This reservoir would, therefore, supply water to run the plant eight hours out of every twenty-four, for a period of 116 days.

The power required for running the laundry may be taken from a small waterwheel, requiring but little water to produce the power, or it may be generated by the large or twenty-four-inch wheel. It will be found most economical to produce this power from a small wheel, requiring but very little water. For instance, a No. 3 Pelton water-wheel, eighteen inches in diameter, with an effective head of 300 feet, will require 25.66 cubic feet per minute, or 15,396 gallons of water per day of ten hours, to give an effective horse-power of 12.38. This wheel can be run with the water from the Roulett Springs system, leaving abundance for domestic purposes.

We would, therefore, recommend that the proposed reservoir be located near and below Roulett Springs, of capacity 5,000,000 gallons, and be constructed at the same time as the Laguna reservoir, and that this last-named system be connected with the power plant by proper pipes and valves.

By the increase in elevation of the dams at the Laguna reservoir, making them two feet higher than estimated for a capacity of 50,000,000 gallons, we can increase the capacity to 57,000,000 gallons. This quantity of water would run the electric plant eight hours a day for 132 days, or certainly long enough to pass from the beginning of the low-water period to the end of the same.

A system of storage batteries can be introduced which will supply all the light necessary during the latter part of the night, so that we may, if required, reduce the actual time of running the plant for light purposes to probably four hours out of every twenty-four, or one half the time, and therefore the use of only one half the water, or, under urgent circumstances, the reservoir would supply water to run the power plant 264 days of four hours each.

This, it seems to me, is a guarantee that, with proper management, the institution can depend upon the proposed power plant to supply all the power and light required.

I am advised by the Pelton Waterwheel Company, to whom I applied for information on this point, that it would be advisable to lay a supply pipe from the "Laguna Reservoir" to the electric light and power plant, said pipe to be of a uniform diameter, or bore, of 11 inches. It will require 5,542 feet of such pipe, a portion of which shall be No. 16, a portion No. 14, and a portion No. 12 iron, so marked and designated on profile presented with this report.

The company will build a special wheel for the plant of about twenty-four inches diameter, and the maximum horse-power will be 75, with a speed of 660 revolutions per minute; and with the use of 120 cubic feet of water per minute, will have an effective 54 horse-power. The cost of the plant is estimated as follows:

Earthwork in dams.....	\$3,250 00
Concrete in dams.....	3,721 00
Furnishing and laying supply pipe.....	4,300 00
Waterwheel and dynamo.....	1,700 00
Wiring, insulation, etc.....	1,500 00
Furnishing and laying 2,300 feet 10-inch pipe.....	1,600 00
<hr/>	
Total cost of installation .....	\$16,071 00

The cost of a building suitable for the electric light plant, and other purposes desirable for the uses of the institution, is set forth in the biennial report of the Board of Trustees of the Home for the years 1895 and 1896, on page 11.

I desire to say that, during the time my official duties detained me at the Home, it was my privilege to witness the efficiency of the present lighting system, and while it is extremely dangerous, it is equally deficient in the power of the light given. I am well convinced that one 16 candle-power electric light will give more service, and better light, than three of the present gas jets. I have seen seven gas jets burning in one room, giving a light which was extremely poor, making it difficult to read by the same. The room was not over 20x20; in other words, the office of the Superintendent.

The question of the safety of so great an assemblage of demented minds in one building, should at least demand careful consideration. Do what we may, the lights must remain open, and therefore become a constant care to the attendants during the whole night, to avoid the possibility of some one of the children tampering with the same and causing a conflagration, the results of which would be appalling.

Those who have not visited this Home can form but a very slight conception of the dangers that surround one of these institutions, where not one out of every fifty of the inmates would have sufficient



intelligence to escape from a fire, even were the doors wide open. Bewildered in the excitement of the occasion, we could expect nothing but disaster. The most of the children would have to be taken from the building by attendants; not by persuasion, but by main strength and extremely active work, if their lives were saved. Establish an electric light plant, and all these dangers disappear at once.

As to the saving to the institution by the establishment of the works above proposed, the report of the Superintendent, Dr. A. E. Osborne, says (page 12):

"The using of water as motive power for laundry, thus saving for fuel over our present system \$3,000 per year at least. Next, the application of water-power to electric light generation, effecting a further saving over a steam plant of at least \$3,000 per year. If we further computed the saving effected in salaries—as a water-power plant would not require the amount of paid labor to attend it that a steam plant does—it is easily figured that the total cost of the whole work will be saved in two years' time. Were this the only consideration, it would be enough, surely, to commend it, but when we realize the inestimable advantages in other lines, to comfort, to service, to security, and to good working results, the proposition stands unparalleled."

The above remarks of the able Superintendent of this institution are in nowise overdrawn. It is simply an expression of the thoughts of one who appreciates the importance of the change here recommended.

If the State of California is charitable enough to furnish shelter for these unfortunate children, it ought to be more interested in their safety from a horrible death.

In the situation of this site for the Home, no little forethought could have been used. Its natural advantages are simply wonderful, and it seems to me the State of California ought not longer to neglect their full development. In locating the site of the proposed electric plant, due regard has been exercised with a view to utilizing the water after it leaves the plant. By an inspection of the maps presented with this report, it will be seen that all the water escaping from the power plant may be used for purposes of irrigation. Below this plant is a large body of valley land, most of which is now planted in vines and trees, which can all be irrigated the year round from the power plant. Portions of this land will doubtless in the future be planted in vegetables and alfalfa, and portions remain in orchard. All will require irrigation to produce the best results. The benefits to be derived from this source are not entirely measurable at present, but certainly indicate many beneficial results.

It will, therefore, be observed that in the consideration of the establishment of the electric light plant, I have considered, as well as I can, the importance of concentration of force, the utilization of water on the



most economical lines, and the development of all the resources incident to the adoption of the system here recommended.

It may be added, in conclusion, that the establishment of this plant will introduce a system capable of producing all the power required for any purpose, during at least eight months in each year.

Should it be the desire of the trustees to introduce any system of employment, or manufacture any articles of use to the institution, ample power will be available for the purpose.

In closing this report, I desire to thank Dr. A. E. Osborne and his estimable lady for the kind treatment received by me and my assistants while engaged at the Home, and also to recognize the prompt response and business-like consideration of all matters presented by me to the Board of Trustees of the Home.

Very respectfully submitted.

J. R. PRICE,  
Chief Engineer.





SISSON HATCHERY—Looking East.—CALIFORNIA FISH COMMISSION.

# FOURTEENTH BIENNIAL REPORT

OF THE

## STATE BOARD OF FISH COMMISSIONERS

OF THE

STATE OF CALIFORNIA,

FOR THE YEARS 1895-1896.

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### COMMISSIONERS:

WILLIAM C. MURDOCH,	- - - - -	SAN FRANCISCO.
H. F. EMERIC, <i>President</i> ,	- - - - -	SAN PABLO, CONTRA COSTA COUNTY.
J. M. MORRISON,	- - - - -	SACRAMENTO.



### SACRAMENTO:

A. J. JOHNSTON, : : : : SUPERINTENDENT STATE PRINTING.  
1896.





## REPORT.

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*To the Honorable JAMES H. BUDD, Governor of the State of California:*

In conformity with law, the Board of Fish Commissioners of the State of California has the honor to submit its Fourteenth Biennial Report, being the record of its work from September 1, 1894, to September 1, 1896.

Hon. H. L. Macneil was forced by ill health to present to you his resignation in January, 1895, and Mr. H. F. Emeric was named by you, February 8, 1895, as his successor.

On February 25, 1895, Hon. J. D. Redding presented to you his resignation, which was accepted, and Mr. J. M. Morrison was appointed to succeed him on March 12, 1895.

Thereupon the Board met and elected H. F. Emeric president, and decided to move the office of the Commission to more commodious quarters, where its business could be more easily transacted. A suitable office was selected at No. 78, Flood Building, and cabinets procured for the library and specimens of native and introduced fish and birds. This collection, while yet small, is rapidly increasing and will furnish an object-lesson, valuable alike to fishermen, marketmen, and sportsmen. Through the generosity of the friends of the Commission suitable furnishings were presented and loaned, so that the office was fitted up in a very complete manner, and without expense to the State.

Meetings of the board have been regularly held upon the second Monday of every month, and at such other times as the exigencies of the work demanded. A majority of the board has been present at every meeting. Complete minutes of the meetings are on file in the office.

The work of this Commission is steadily increasing, and its field for usefulness so rapidly extending that much time is required to plan the work and properly attend to the various questions which are constantly demanding attention. We have followed the policy laid down by the first board and adopted by every succeeding board, both because the laws governing this Commission require us to do so, and because our greatest field of usefulness lies in that direction. We are greatly pleased to be able to present to you, in the following pages, the splendid results of this policy, and to demonstrate conclusively that the care and supervision of the commercial fisheries is worthy of the best efforts of this board, and will make returns a hundredfold to the people of the State.

We quote from "A Review of the History and Results of the Attempts

to Acclimatize Fish and other Water Animals in the Pacific States," by Dr. H. M. Smith, of the U. S. Commission of Fish and Fisheries, a gentleman who has made extended investigations throughout the State and thoroughly examined all of our waters, making investigations of the various branches of our commercial fisheries:

"The zealous efforts of the Fish Commissioners of California to increase the quantity and variety of food and game fishes of the State deserve special recognition. For more than twenty-five years the energies of the Commission have been almost constantly directed to the acclimatization of desirable fishes inhabiting the waters of the Eastern States. Their remarkable success when acting on their own behalf and in conjunction with the New York Commission and the U. S. Fish Commission entitles them to the great credit and praise which they have received both from the inhabitants of California and from the people of other States and foreign countries." (p. 380.)

This quotation is not made with the idea of self-congratulation or laudation, but to show that the policy laid down by the State's first Board of Fish Commissioners is the policy which receives the highest commendation from the men who are the best posted in the value of this work, and thoroughly able to express an opinion.

It has also been our aim, so far as was in our power, to protect and care for the game and game-fish interests of the State, believing that they are of great importance; and, as the following pages will show, demand more attention and better protection than has heretofore obtained. We have, during the last two years, by watching the chief market centers and sending men into districts where violations were reported, made many arrests and put a stop to much illegal work.

We have caused certain statistics pertaining to our fisheries to be compiled. They are included in this report, and give much valuable information regarding the catch of our commercial fishes. We also present statistics, which will be found of interest, showing the value and amount of game handled in San Francisco and Los Angeles markets, during the season 1895-96.

We have increased our fish hatcheries by the addition of the Battle Creek, Tallac, and Wawona stations, and are now much better equipped than ever before, and better able to carry on the work of re-stocking and increasing the output of our streams and lakes.

The splendid location of the Battle Creek hatchery makes it possible to take and hatch an unlimited number of salmon eggs; and, although obliged to stop last fall in the middle of the work for want of a place to eye the eggs, we have placed to our credit in one year the largest plant of salmon fry ever made by the State in any previous four years—14,283,180.

The location of the Wawona hatchery fills a long-felt want, and makes it possible to reach the magnificent waters in and about the Yosemite National Park without the long, tiresome, and unprofitable trip from any one of our other hatcheries.

We have granted all applications for fish for public waters in so far as they were suitable for the varieties asked for; but so great a demand has been made upon us in this direction that the supply has not been equal to it, even with the increased output never before equaled.

Total Output For—	1895.	1896.
Eggs.....	383,000	1,141,000
Fry.....	7,391,700	18,351,833
Adults and yearlings.....	1,239	5,209
Totals.....	7,775,939	19,498,042
Total output for two years.....		27,273,981

The remarkable success of the plant of Eastern fresh-water fishes in Lake Cuyamaca, San Diego County, in 1891, would indicate that these varieties, which are held in high esteem as food and game fishes throughout the East, as well as others introduced here, will find congenial waters in our State, thereby adding to our already large variety of fishes, and making our waters more productive.

Efforts have been made to introduce desirable mollusks and crustaceans from one part of the State to another, with the hope of increasing the range of these species, and consequently the supply.

The sawdust question in the Truckee River has demanded attention, and we are glad to report that this stream, as well as others, has been kept free from pollution.

The ladders upon dams have been frequently inspected, and kept in repair. Such arrangements have been made that but few, if any, dams are unprovided with ladders at the present time.

The policy of retaining the trained and capable men who have been employed in the work for many years, has enabled the Commission's work to proceed without interruption, and has been the means of saving many dollars to the State. We believe that this Commission should be operated under civil service rules, as it will incite the men employed to more careful and better work, knowing that they will be retained so long as they are faithful and attentive.

We have designed to conduct the business of the Commission on business lines, and have, we believe, made the best possible use of the money appropriated. The amount has many times seemed inadequate, and we have been obliged to temporarily retire some of our men until such time as our finances would permit their re-instatement.



The resources and expenditures of this Commission have been as follows:

*Forty-sixth Fiscal Year.*

	Resources.	Disbursements.
Support and Maintenance of State Hatcheries—		
Appropriation .....	\$7,500 00	\$7,500 00
Restoration and Preservation of Fish—		
Balance on hand .....	150 00	
Appropriation .....	10,000 00	10,150 00
Fish Commission Fund—		
Balance on hand .....	1,379 24	
Receipts from licenses, fines, etc. ....	5,225 92	
Amount expended .....		4,737 72
Balance on hand .....		1,867 44
Totals .....	\$24,255 16	\$24,255 16

*Forty-seventh Fiscal Year.*

Support and Maintenance of State Hatcheries—		
Appropriation .....	\$7,500 00	\$7,500 00
Restoration and Preservation of Fish and Game—		
Appropriation .....	10,000 00	10,000 00
Fish Commission Fund—		
Balance on hand .....	1,867 44	
Receipts from licenses, etc. ....	5,671 90	
Amount expended .....		5,874 89
Balance on hand .....		1,664 45
Totals .....	\$25,039 34	\$25,039 34

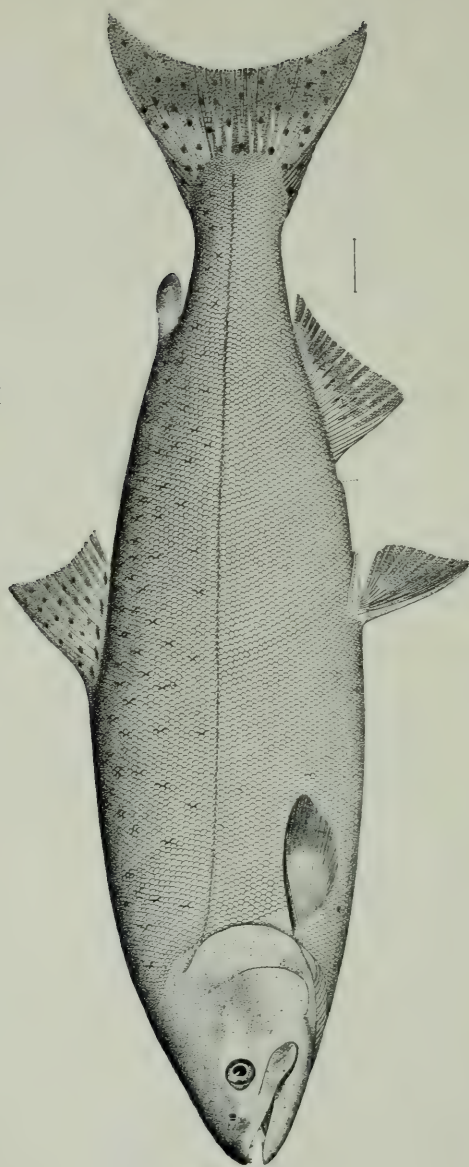
In the Appendix will be found a statement of all the bills passed by this Board and allowed by the Board of Examiners. This statement shows to whom and for what purpose the money was paid. Duplicates of all bills are on file in this office, giving in detail the uses to which our funds have been put.

Having thus given a résumé of the work under our supervision, we invite your attention to the details which follow, as well as to many subjects and incidents connected with our fisheries, and to the other matters with which we have had to deal.

We are pleased to report that the increase in the fishery industry, shown in the Thirteenth Biennial Report of the COMMERCIAL FISHERIES. California Fish Commission, has continued during the last two years, although the fisherfolk have suffered in some measure, owing to the hard times which have affected every industry.

We regret our inability to present the actual increase. Our resources do not admit of a sufficiently thorough investigation of all its branches to enable us to make complete statistics. The U. S. Commission of Fish and Fisheries have not taken a complete census since 1892, but are now completing one for the year 1895. The results of the census of 1892 were embodied in the last report of the California Fish Commission.





QUINNAT SALMON.—*Onchorhynchus chowicha*.

Mr. W. A. Wilcox, of the U. S. Commission of Fish and Fisheries, in his treatise entitled "The Fisheries of the Pacific Coast," says:

"The growth of the industry of late years has been marked, and the near future will doubtless witness an advance in the relative position of California at the expense of several of the east-coast States. Considering the entire country, the rank of California as a fishing State is six; in the value of its products it is surpassed only by Massachusetts, Maryland, New York, New Jersey, and Virginia." (p. 147.)

We take the following totals from a table prepared by him, which show the products of the fisheries of California:

	Pounds.	Value.
1889.....	53,505,055	\$2,465,317
1890.....	53,330,194	2,592,826
1891.....	52,483,906	3,031,430
1892.....	57,838,466	3,022,991

That the fisheries of the State are constantly developing along broader lines is beyond question, and the fishermen and people generally are coming to appreciate the value of fostering this industry, and are urging the Commission to extend its investigation and its protecting power to branches which they never before deemed in need of protection, because of the seemingly limitless store from which the supply was being drawn.

If at any time there has been a question as to the needs and results of the artificial propagation of both fresh and salt water fishes, that time has passed, for it is no longer a supposition but an established fact that this work makes enormous returns for the money expended. The results of this work are everywhere apparent, and nowhere more so than in California, and the people generally are alive to the necessity and demand for it.

Dr. H. M. Smith, of the U. S. Commission of Fish and Fisheries, says, in his "Notes on a Reconnoissance of the Fisheries of the Pacific Coast of the United States in 1894":

"In no other region in the United States are the people more generally impressed with the beneficial results of artificial propagation and more ready to aid and approve any fish-cultural measures that are properly recommended. While the results of salmon culture have in some places been marked and are readily acknowledged by fishermen and others, this alone is not sufficient to account for the widespread advocacy of fish culture which exists among all classes and in all parts of the Pacific Coast. We must look further for the cause. There seems little reason to doubt that to the marvelous success of shad and striped bass acclimatization on the west coast must be attributed the firm belief in fish-cultural work that pervades all localities in which fish is an article of food or an object of capture. One or both of these new species are well known in almost every Pacific Coast settlement, and they are an enduring testimony to the influence of man over fish production." (p. 226.)

It has been the purpose of this Board to increase the production of the salmon fishery, which is our most important branch. Aided by the extended close season granted by the last Legislature, we were enabled to plant in our waters a greater number of young fish than ever before. The following table, showing



the yearly increase in the receipts of fish in the San Francisco markets, must be attributed to the planting of fry in former years:

*Salmon Received in the San Francisco Market.*

Month.	1893.	1894.	1895.	1896.
January .....	137,460	128,556	161,641	168,366
February .....	93,263	103,801	146,250	173,278
March .....	139,401	163,131	155,791	197,043
April .....	374,478	211,552	365,387	301,964
May .....	325,170	242,126	401,787	291,310
June .....	70,216	138,675	161,989	134,922
July .....	1,139,388	987,841	1,392,845	1,266,883
August .....	149,217	117,516	115,592	-----
September .....	575,609	576,991	447,094	-----
October .....	249,753	403,340	-----	-----
November .....	183,789	276,768	431,453	-----
December .....	165,090	192,153	326,474	-----
Totals .....	2,453,446	2,554,609	2,713,458	-----

While the yearly increase is not large, it shows a healthy growth, and establishes the fact that this fishery can, with proper protection and the re-stocking of our waters, be restored to its former splendid condition, when the annual catch amounted to ten millions of pounds instead of four.

It must be borne in mind that the success at Battle Creek station is due entirely to the extension of the close season. Until October was included in the close season, the salmon that had successfully passed the bays and lower river during the month of September were legally taken by the ton from their spawning-beds, or in the deep pools of the Sacramento River in Tehama and Shasta counties, though the fish were unfit for food and had not accomplished the purpose for which the State had guarded their ascent of the river. The addition of the month of October to the close season was timely and is of vital importance in the efforts of the Commission to restore the supply of salmon. The Board met with no opposition to its efforts to enforce the observance of the extended close season in the region of the upper Sacramento and in Humboldt County. This change meets with the approval of the people of those sections, as well as of the fish-dealers of the San Francisco market, all of whom have evinced a genuine interest in the efforts of the Commission to increase the run of our most valuable fish. In Del Norte County, however, the efforts of the Board to enforce this law were made abortive by the action of the local authorities, the Board of Supervisors assuming to make regulations in conflict with the State law, and the District Attorney instructing the Justices of the Peace to refuse to issue warrants, and refusing himself to prosecute arrested offenders. Our deputy was withdrawn and the matter was called to the attention of the Attorney-Gen-

eral. The people of that county will alone be the sufferers, since the fisheries there supply only the local demand.

For some reason the run of salmon in the Sacramento River in 1895 was affected (presumably from high temperature or a rise of water) so that, instead of being heaviest during the month of August, it was only well started when the season closed. This condition obtained in 1896, but in a more marked degree. The early or spring run of fish was also affected by some cause. The salmon appeared in considerable numbers in the river as early as January, and continued to come through February and March, in consequence of which the April run of fish did not show the decided increase of former years, though there was an increase in the total take for the first six months.

Owing to the varied run, the canneries did not pack as many SALMON salmon, as the following table will show. The figures for the CANNED. years previous to 1895, in all of the tables, were taken from the biennial report of the California Fish Commission for the years 1893-94:

*Salmon Pack of the Sacramento River.*

Year.	Pounds.	Cases.
1888.....	4,039,200	61,200
1890.....	1,618,471	25,065
1891.....	672,121	10,353
1892.....	170,425	2,281
1893.....	1,496,927	23,336
1894.....	1,940,009	28,463
1895.....	1,637,025	25,185
1896.....	870,155	13,387

It would be advantageous for the State to cause an investigation by trained scientists of the habits of the young salmon after reaching the river from the small creeks on their way to the sea. Such an investigation, combined with intelligent observations upon the fish-food to be found in our larger interior waters, might lead to information that would be of material help in the restoration of salmon and the development of other valuable food-fisheries. It would seem advisable, therefore, that the Legislature should make a small appropriation for such scientific investigation, placing the appropriation in the hands of the Board, or of Dr. David Starr Jordan, of Stanford University, who, as is well known, stands high as an authority on the habits of fishes.

The number of seals near the Seal Rocks, lying off Point Lobos, SEALS. City and County of San Francisco, has so greatly increased under the protection afforded them by an Act of Congress relating to the control and care of the rocks that they very seriously interfere with the fishermen who carry on their vocation in the Bay of San Francisco and its tributary waters. Many schools of fish seeking entrance to spawning-beds are scattered by these seals.

When the salmon come in from the open sea they are set upon, and many schools are broken up and driven back; and only when compelled by the demands of nature do they gather in sufficient numbers to force an entrance to the bays and lower rivers. Thus is the run of this valuable fish lessened and delayed. Their devastations do not cease here, as the seals follow in the wake of the fish, ascending as high as the waters of Suisun Bay and the lower Sacramento and San Joaquin rivers, where the principal fishing-grounds for salmon, striped bass, and shad are found. Not content with taking the number of fish they wish for food, which is considerable, they go along the nets biting and killing the fish, tossing them into the air, and playing with them. In this way they tear the nets; and very often becoming entangled in the meshes thereof, the net is completely destroyed.

It has been estimated that there are at the present time no less than two thousand seals resorting to the Seal Rocks; and, as it is said to require about sixty pounds of fish a day to supply the needs of a full-grown individual, it is easily seen that they are interfering seriously with the fishing industry of this State.

We fully appreciate the great attraction they are to the people of this city and State, as well as to the great number of visitors who annually come here; but, as the servants of the people of this State, charged with the duty of protecting their fisheries, we deemed it wise to call the attention of the proper officials to the above referred to Act, wherein the right to at all times control and limit or diminish the number of the seals resorting to said rocks, so as to protect the fisheries and fishing industries, is reserved to the United States. We communicated with the U. S. Commissioner of Fish and Fisheries, who referred the matter to the Secretary of the Interior, with the recommendation that this matter be given prompt attention.

In order that you may fully understand the subject, and deeming it of interest to many, we append herewith a copy of the Act relating to the control and care of the Seal Rocks:

AN ACT TO GRANT CERTAIN SEAL ROCKS TO THE CITY AND COUNTY OF SAN FRANCISCO,  
STATE OF CALIFORNIA, IN TRUST FOR THE PEOPLE OF THE UNITED STATES.

[Approved February 23, 1887.]

*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That all the right and title of the United States in and to the rocky islets known as the Seal Rocks, and all rights to seals resorting there, situated off Point Lobos, in the City and County of San Francisco, State of California, are hereby granted, subject to the provisions named, in trust to said city and county, upon the following conditions and for the following uses, to wit: Said city and county shall hold said Seal Rocks inalienable for all time in trust for the people of the United States, and shall commit to the Commissioners of Golden Gate Park the custody and care of said Seal Rocks, and shall keep said rocks free from encroachment by man, and shall preserve from molestation the seals and other animals now accustomed to resort there, to the end that said Seal Rocks will continue to be a public preserve and resort for seals;*

### ERRATA.

Page 11—Number pounds Shad for March, 1896, should be 14,375; for April should be 75,625; and total for six months should be 234,612.

Page 12—Number pounds Carp for March, 1896, should be 8,659, and total for six months should be 52,495.





BATTLE CREEK HATCHERY.—CALIFORNIA FISH COMMISSION.

*provided*, that the United States may at all times control and limit or diminish the number of the seals resorting to said rocks, so as to protect the fisheries and fishing industries; and *provided further*, that whenever any of said rocks or the space occupied by said rocks shall be required by the United States for the erection or maintenance of any public work for any other purpose, then as to the rocks or space so required the provisions of this Act shall terminate and the United States shall be reinvested with the full title, control, and possession thereof. Said city and county shall signify its acceptance of this trust, and thereupon the Commissioner of the General Land Office shall file in his office a plat showing the locus of said Seal Rocks, and said plat shall be the evidence of the extent and position of the premises hereby granted.

SEC. 2. That all Acts in conflict with the provisions of this Act are hereby declared inapplicable to the premises hereby granted.

The laws for the protection of the salmon fishery should not be changed.

The shad fisheries continue to be influenced by the demand for SHAD. the fish. The fishermen are limited by the marketmen to that amount which is daily consumed, this being deemed the only means by which they can keep the market from being overstocked. For the first six months of 1896 the figures show a decided increase in the catch of shad. Little do our people appreciate the fact that one of the best and most sought-for fish in the East is always here at hand and is to be obtained many months in the year at a price which places it within the reach of all.

Mr. W. A. Wilcox says, in the article already referred to: "San Francisco is the only city in the United States in the markets of which fresh shad just from the water may be found at any time in the year." They have so firmly established themselves in our waters that no legislation is needed to protect them. This is equally true of the striped bass. The following table of the number of pounds of shad received in the San Francisco market gives but a poor idea of the abundance of these fish:

Month.	1893.	1894.	1895.	1896.
January .....	2,774	41,266	369	4,600
February .....	8,781	11,767	2,106	6,000
March .....	10,019	17,747	14,257	14,375
April .....	32,389	39,115	23,960	75,625
May .....	80,557	57,823	36,729	95,392
June .....	36,184	22,027	25,787	38,620
	170,704	189,745	103,208	234,612
July .....	3,319	7,754	3,213	-----
August .....	2,796	1,764	805	-----
September .....	698	475	3,317	-----
October .....	53,652	23,496	5,788	-----
November .....	96,340	37,987	23,534	-----
December .....	77,882	8,158	6,534	-----
Totals .....	405,391	269,379	146,399	-----

The striped bass fishery shows a marked increase. This STRIPED fish is becoming very common in our markets, finding a BASS. ready sale, and being considered one of the best fish offered.

It promises to become one of the most valuable of our fisheries. This is certainly a gratifying result obtained from the acclimatization of 100 fingerling fish in 1879, and 350 in 1882. It is a noteworthy fact that these fish have, during the last two years, sold in San Francisco at a price much lower than in the Eastern markets.

*Number of Pounds of Striped Bass Received in San Francisco Market.*

Month.	1893.	1894.	1895.	1896.
January .....	3,041	14,177	28,328	27,179
February .....	2,752	12,572	15,611	36,107
March .....	5,190	9,002	11,281	38,340
April .....	8,351	9,638	22,000	41,740
May .....	7,232	9,413	12,639	45,903
June .....	4,353	4,820	11,532	15,047
July .....	30,919	59,622	101,391	204,316
August .....	2,950	7,273	13,782	-----
September .....	2,655	5,956	12,419	-----
October .....	8,517	10,021	21,063	-----
November .....	6,720	22,591	28,724	-----
December .....	10,473	17,319	50,245	-----
Totals .....	17,504	21,972	24,553	-----
Totals .....	79,738	144,754	252,177	-----

Receipts of carp and catfish show an increase for the first CARP AND six months of 1896. These fish, though little considered CATFISH. by most of our people, furnish food for a large number, and figure to a large extent as a market fish. The consumption of these fish in the Sacramento and San Joaquin valleys has been very large, and the receipts in the San Francisco markets were as follows:

*Number of Pounds of Carp and Catfish Received in San Francisco Market.*

Month.	1893.		1894.		1895.		1896.	
	Carp.	Catfish.	Carp.	Catfish.	Carp.	Catfish.	Carp.	Catfish.
January .....	624	1,175	10,142	4,117	6,017	568	22,045	3,896
February .....	519	1,766	4,755	1,696	3,755	680	13,159	2,714
March .....	4,356	2,988	6,798	4,766	3,851	831	8,659	4,807
April .....	3,101	3,705	2,839	5,290	1,563	2,358	4,282	3,461
May .....	560	3,265	767	2,978	555	3,644	1,913	9,160
June .....	1,469	2,155	699	2,630	650	3,151	2,437	4,830
July .....	10,629	15,054	26,000	21,477	16,416	11,232	52,495	28,868
August .....	4,570	2,299	729	695	560	753	-----	-----
September .....	1,665	710	383	357	150	1,159	-----	-----
October .....	1,132	5,800	4,396	2,748	785	3,257	-----	-----
November .....	3,782	5,547	4,969	2,795	1,355	7,162	-----	-----
December .....	5,969	3,932	4,461	1,526	4,043	3,047	-----	-----
Totals .....	5,337	3,202	1,642	1,867	3,555	5,672	-----	-----
Totals .....	33,084	36,544	42,580	31,465	26,864	32,282	-----	-----



Since the passage of the Act by the last Legislature making the months of April, May, June, July, and August a close season for sturgeon, many reports have come to us of the large number of these fish seen far up the Sacramento and San Joaquin rivers in places where they have but rarely been seen for years. We are encouraged to think that these fish, being now able to reach natural spawning-grounds unmolested, will in a few years come into the markets in increasing instead of diminishing numbers. The abolishment of the use of the barbarous sturgeon hook, which kills the small as well as the large fish of this species, as well as all other species, should greatly help to increase the productiveness of this fishery. The receipts of this fish for 1896 are given herewith:

January.....	34,181 pounds.
February.....	26,955 pounds.
March.....	18,625 pounds.
Total.....	79,761 pounds.

The principal market supply of trout has continued to come from the Lake Tahoe region. The following table of shipments from Truckee is furnished by the U. S. Commission of Fish and Fisheries. The figures for 1896 are not yet obtainable:

*Number of Pounds of Cut-throat Trout Caught in Lake Tahoe and Shipped from Truckee.*

Month.	1894.	1895.
April .....		928
May .....	7,480	4,643
June .....	10,319	5,728
July .....	2,642	6,299
August .....	7,095	3,376
September .....	4,176	5,741
October .....	3,256	2,035
Totals .....	34,968	28,750

In 1895 fishing was resumed in Lake Tulare after an interval of several years, during which time the Sacramento River perch have rapidly increased in abundance.

This Commission made a plant of black bass, yellow perch, and sun fish in this lake in May, 1896, and ordinances were passed by the Supervisors of Kings and Tulare counties prohibiting fishing with nets. The number of pounds of Sacramento River perch taken in this lake in 1895 follows. The figures are furnished by the U. S. Commission of Fish and Fisheries:

March.....	313 pounds.
April.....	14,876 pounds.
May.....	3,945 pounds.
June.....	2,760 pounds.
September.....	230 pounds.
October.....	1,185 pounds.
Total.....	23,309 pounds.



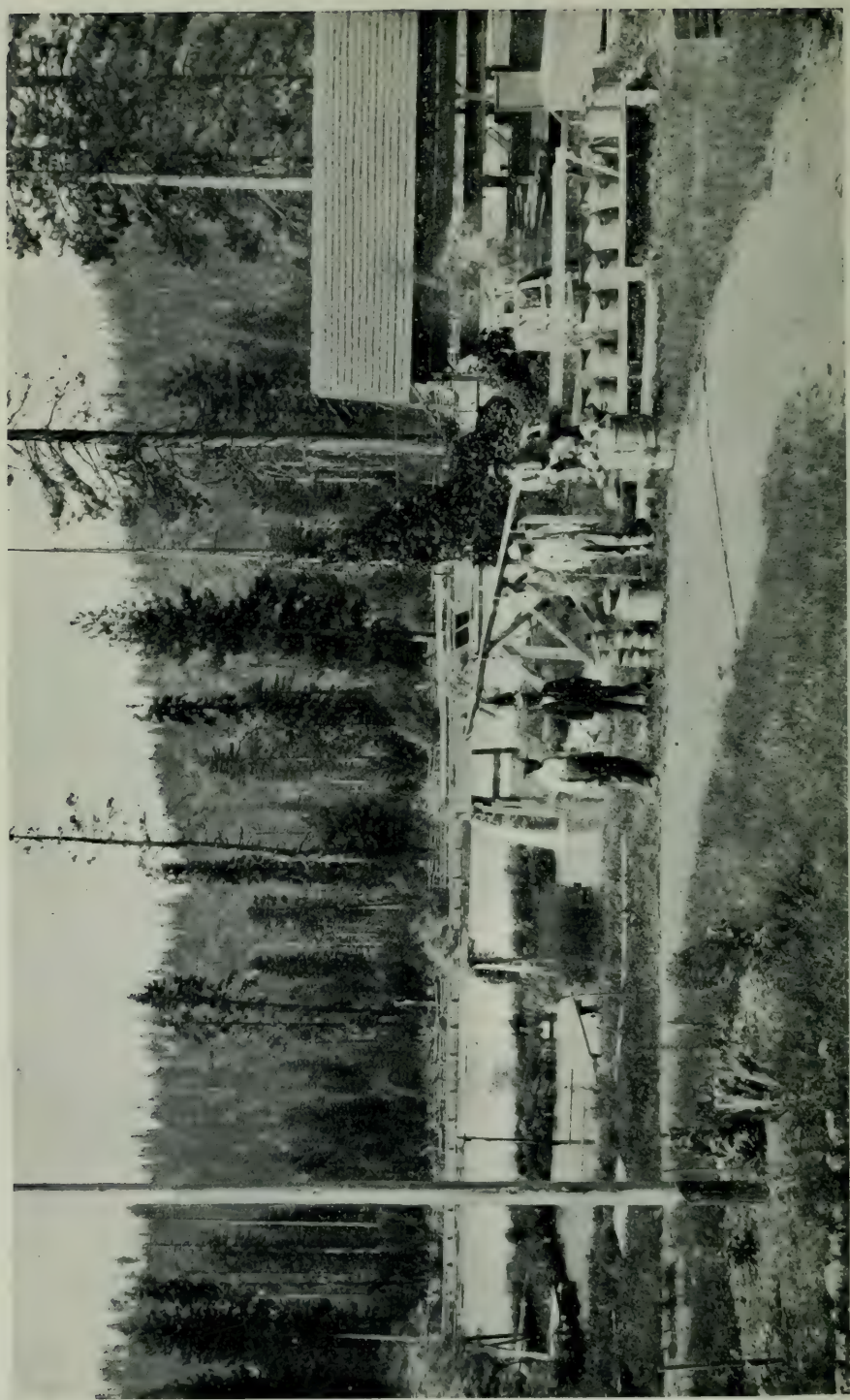
The spiny lobster fishery is developing very rapidly, and under the present laws it receives the protection which should prevent the depletion of the species. Recommendations are herein suggested to the Legislature, which will make this law more effective as well as more easily observed by the fisherman. He cannot always weigh a lobster, but it is not a difficult matter to apply a measure, as is done throughout the East. The number of pounds of lobsters taken in Los Angeles County in 1892 were 128,425. The increase in the fishery is shown by the receipts in the Los Angeles markets alone in 1895:

	Pounds.		Pounds.
January .....	9,502	July .....	8,891
February .....	9,225	August .....	14,323
March .....	19,765	September .....	15,056
April .....	15,114	October .....	17,129
May .....	5,743	November .....	13,917
June .....		December .....	15,073
Total .....			143,738

Under the present law it is made a misdemeanor to sell steelhead trout between November 1st and April 1st; and, as these fish cannot be taken in any numbers except during that period, the enforcement of this law caused the marketmen of San Francisco to take a case into court, claiming that these fish, having the habits of salmon, must therefore be salmon and not trout, as your Commission maintains. Our stand is taken upon the advice of such high authority as Drs. David Starr Jordan and Charles H. Gilbert, of Stanford University. The evidence submitted was so conflicting that the Police Judge dismissed the case. This law was framed and passed with the idea of giving these fish the necessary opportunity to come in from the ocean and reach the spawning-grounds in the headwaters of our coast streams. It is our opinion that this object will be attained, and a sufficient number of fish reach the headwaters to keep up the supply, even if an open season of three months be made during the period of their run. Recommendations for legislation affecting these fish follow hereafter.

While the supply of crabs (*Cancer magister*) is still equal to the demand, the fishery shows that this species is gradually becoming more scarce, for the fisherman is obliged to go a greater distance for his catch. The protection of this branch of the fishery industry should receive the attention of the Legislature, and the recommendations hereafter suggested by us should materially help to restore a fishery worth, in 1892, some \$102,900.





SISSON HATCHERY—Looking West.—CALIFORNIA FISH COMMISSION.



**SAN FRANCISCO MARKET.** The status of the San Francisco market, the chief center of the fishery industry, is so well summed up in the report of Mr. W. A. Wilcox, and the manner and methods of taking and handling the catch so tersely described, that we make the following extract therefrom:

"The fresh-fish business of San Francisco presents few changes or improvements. Fish are handled in the same primitive manner often described and always noticed by every one that takes any interest in visiting the fish markets. The fish are seldom dressed and but a small amount of ice is used. \* \* \* Six days in the week, every week in the year, with the exception of a few stormy days, the little lateen-rigged fishing-boats sail out in the morning for the same fishing-grounds, with the same kind of fishing-gear, nets, or trawls; with little trouble they catch the same varieties of fish, and the evening finds them back in their fishing-dock." (p. 197.) "The fresh-fish markets of San Francisco are interesting and in some respects unique. In them one may buy a single pound of fish or a carload, both wholesale and retail business being carried on at the same stand. About 12,000,000 pounds of fresh fish are handled annually, exclusive of those in the Chinese markets. Large quantities of oysters, clams, mussels, shrimp, and crabs are sold annually. \* \* \* The fresh and salt waters of the State are rich in quantity and variety of animal life, and fishery products from all over the State find their way to this market. It is said that over 275 species of fish are found in the waters of the State, although many of these are not used as food, except by the frugal Chinese, who rarely permit anything to go to waste." (p. 208.) "The quantity of fishery product annually withdrawn from these waters is enormous, but it is doubtful if the full resources are utilized or appreciated." (p. 196.)

**MONTEREY BAY.** Monterey Bay fisheries are as abundantly supplied as ever. The number of salmon taken during the last two summers has been enormous. The catch was so large this year that the Sacramento River Packers Association opened a cannery at Monterey.

**SOUTHERN CALIFORNIA.** The fisheries of Southern California were augmented by the building of a cannery at San Pedro, in 1895, by the Haniman Fish Company, for the canning of sardines, lobsters, mackerel, barracuda, etc. This cannery was supplied with the latest appliances and gave great promise of enormously increasing the output. Unfortunately, it was completely destroyed by fire in June of this year. The sardine cannery of the California Fish Company, at East San Pedro, has been in operation continuously since our last report, and is most successful.

The San Diego fisheries are the only ones in the State which show a falling off. This is due in a large part to their limited market.



The export trade in fishery products is summed up in  
EXPORTS. the following table:

*Value of Exports of Fishery Products from San Francisco.\**

Article.	1892.	1893.	1894.	1895.
Codfish .....	\$26,681 00	\$21,412 00	\$16,557 00	\$21,945 00
Dried fish .....	34,439 00	27,043 00	39,558 00	20,351 00
Salmon, canned .....	1,810,567 00	621,336 00	1,766,619 00	2,285,711 00
Salmon, in barrels .....	46,986 00	44,157 00	43,028 00	42,756 00
Other canned fish .....	10,715 00	9,828 00	13,397 00	25,820 00
Oysters .....	9,655 00	7,432 00	7,369 00	7,151 00
Other shell-fish .....	226,063 00	188,532 00	167,453 00	179,734 00
Totals .....	\$2,165,106 00	\$919,740 00	\$2,053,981 00	\$2,583,468 00

\*Figures furnished by U. S. Customs officials, San Francisco.

In the enforcement of the laws we have done all that was  
ENFORCING possible; and, while not claiming to have covered all of  
THE LAWS. the territory under our jurisdiction, which would be impos-  
sible with ten times as many men as our funds will per-  
mit of our employing, we do claim to have given the food fishes all the  
protection possible, and to have so placed our men that the best service  
was rendered to the most important interests placed in our charge.

Our purpose has been to give the salmon fisheries that  
SALMON supervision and protection which is necessary to insure  
PROTECTION. the run of fish reaching the headwaters of our rivers, so  
that a sufficient number of eggs may be taken to keep  
up the supply.

An effectual patrol of the bays and rivers from San Francisco to  
Redding has been maintained during the close season. During both the  
spring and fall runs our deputies have been kept on the river with in-  
structions to examine the nets and ascertain if the legal-sized mesh was  
in use and see that the Saturday-Sunday law was not violated. We  
have hired the launch "Hustler" for this patrol, and have found her  
well adapted to the river work. The number of arrests made has not been  
large, because such heavy fines have been imposed under the present  
laws that the fishermen do not care to take the chances of being caught  
and convicted. When arrested, they have, almost without exception,  
fought the cases in court rather than plead guilty, as was their habit  
when the penalty was less severe.

Thousands of feet of sturgeon lines, the use of which is  
STURGEON now prohibited by law, have been taken up; and, never  
LINES. having been claimed, are now in our possession. We  
are determined to break up the use of this gear, as none  
more destructive to fish of every kind is in use.

LICENSES. The collections of licenses from fishermen who use a boat and net have been made by the patrol department, and a statement showing the amount collected and the number and classes issued will be found in the Appendix.

RUSSIAN RIVER. To the enforcement of the fishery laws upon Russian River we have given much attention, and in the winter months, during the run of steelheads, we have maintained a day and night patrol of that part of Russian River where nets can be used. The laws have been effectually enforced and the patrol made numerous arrests. Many set-nets have been taken from the river, whose owners were either unknown or against whom legal proof could not be established. These nets were surrendered to the keeping of the Justices before whom complaints were made.

TROUT STREAMS. A patrol of the trout streams has been maintained during the close season, especially of those nearest San Francisco, which are oftenest visited by poachers, resulting in the practical stopping of illegal fishing. As a result of patrolling one stream for a few days and then transferring our deputy to another, we have effectually covered much territory, and kept the streams free from poachers by reason of the uncertainty of the movements of the patrol.

EXPLOSIVES. We have used every effort and taken every opportunity to break up the pernicious habit of killing fish with explosives, and are glad to say that we have, in one or two instances, succeeded in punishing the guilty parties. It is but seldom that the transgressor can be caught, as he does not use the explosive save when he thinks himself unobserved, and it takes him but a few minutes to remove every evidence which would in any way incriminate him, although the result of his guilty actions are apparent on every hand, and the destruction wrought by his dastardly act is not soon repaired.

BIG GUNS. In an endeavor to enforce the law prohibiting the use of shotguns of larger caliber than ten-gauge, we kept a deputy in the field in the San Joaquin Valley during the greater part of the shooting season of 1895-96. He made several arrests, but secured but one conviction, though he was heartily supported by the District Attorney of Merced County. We are satisfied, however, that his presence in this section had a good effect on the pot-hunters, and to a great extent stopped the use of big guns.

FISH-LADDERS. Many new ladders have been built upon dams throughout the State, and we have made it our constant care to see that all ladders have been kept in repair and open for the passage of fish.

The construction of a suitable fish-ladder upon the dam of the Folsom Water Power Company at Folsom was completed in April, 1896. It is

constructed of rock and cement, is 12 to 18 feet wide, with a fall of one foot in seven, and permits the passage of fish from the pool at the base of the dam up into the canal near the head-gates. To this point the ladder is satisfactory, but the question has been raised regarding the ability of fish to pass the head-gates as they are now operated, owing to the outpouring volume of water. It was our intention to test this point by the use of nets above the head-gates, but no opportunity was had this past season, as there was no apparent run of shad or other migratory fish below the dam. The ladder has not been accepted by your Commission, and will not be until all doubt of its working has been removed.

A reliable correspondent at Auburn reports the presence of shad in the American River below that point and above the Folsom dam.

A passageway for fish has been cut in the rock on the east side of the dam in the American River near Folsom, owned by the American River Ditch and Milling Company, which removes all doubt of fish being able to pass this obstruction.

The construction of a fish-ladder upon the dam in the Tuolumne River, above La Grange, is delayed, owing to the fact that it is the joint property of the Modesto and Turlock irrigation districts, which are now prevented from any proceedings by an injunction pending a decision from the United States Supreme Court regarding the constitutionality of the Wright Irrigation Law.

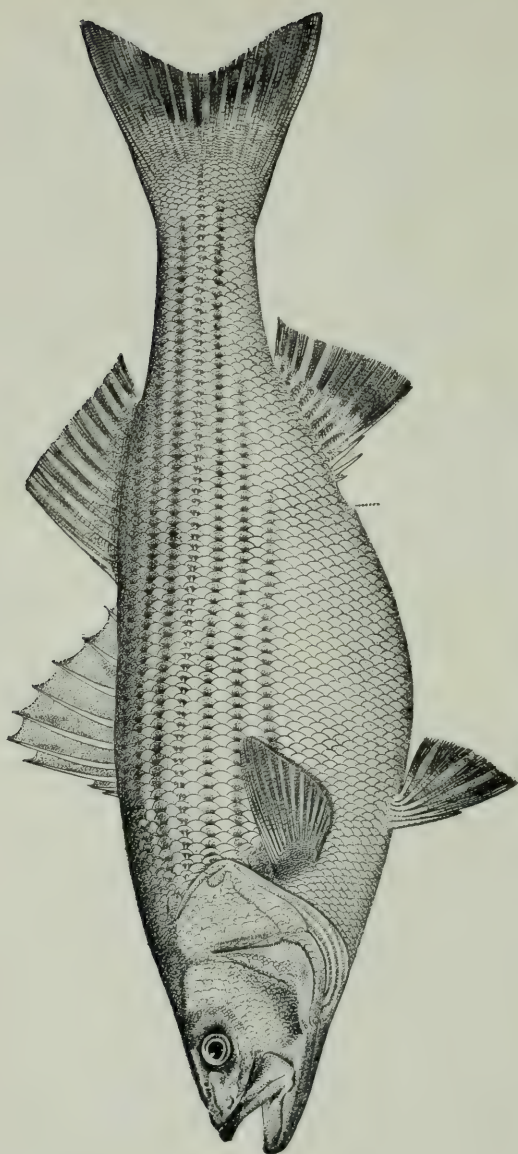
The engineering difficulties in constructing a fish-ladder upon this dam are great. The top of the dam is 98 feet above the bed of the river, and the conformation of the banks will make the construction and maintenance of a fishway a difficult and expensive undertaking. The run of migratory fishes at this point is not large. The number of salmon that enter this stream to spawn is small, and after its waters are taken out for irrigating purposes, will probably decrease. We are of the opinion that the construction of a ladder upon this dam is not warranted, and would be of little or no benefit to the people or the fish.

The dam in the Klamath River at Pokegama, in Siskiyou County, has been the source of much trouble and damage to the tributary streams above that point. The ladder built in 1894 was washed out during the high water in the spring of 1895, but was replaced in the fall of that year. It was again carried away in January, 1896, and now different plans have been furnished for its reconstruction. Owing to the loss of this ladder we were prevented from taking the usual number of rainbow trout eggs at the Shovel Creek station.

It is to be regretted that the law does not permit the Board to cause many of the old ladders upon the dams in the Truckee River to be replaced, as many of them are small and badly located upon the dams; but,







STRIPED BASS—*Morone saxatilis*.

as the owners built them according to plans furnished by previous Commissioners, we are unable to rectify the matter until they are destroyed.

Many complaints have come to this office concerning the condition of some of the ladders and dams in the Truckee River in the State of Nevada, it being claimed that fish could not pass over them in their annual run from Pyramid Lake. We have upon several occasions called the attention of the Nevada Commissioner to these dams, and regret to inform you that the matter has not been treated in the considerate manner our mutual interests in this valuable stream would seem to deserve.

A new ladder has been constructed on the dam in the Little Truckee, at Boca; and, the gates in the dam some miles above that point having been removed, the fish can now pass the entire length of this valuable stream.

The conditions in the Truckee River basin were never more to the satisfaction of the sportsman than at present.

The law prohibiting the dumping of "shavings, slabs, SAWDUST. edgings, and mill and factory refuse" into streams has been rigidly enforced everywhere. In the summer of 1895 the Attorney-General, at the request of your Commission, obtained an injunction from the Superior Court of Sacramento County restraining the Truckee Lumber Company and the State Line Mill Company from dumping their mill and factory refuse into the Truckee River, since which time it has been free from deleterious matter. An appeal to the Supreme Court was taken by the Truckee Lumber Company in May, 1896. If a decision is rendered in time, it is our intention to include extracts from it in the Appendix to this report, as well as from the brief filed by the Attorney-General.

The matter of the placing of screens at the heads of water  
SCREENS. ditches has received due attention. In many cases screens have been placed in ditches by order of the Board. There are, however, many irrigating ditches in the State where the placing of screens is considered inadvisable and unnecessary. The use of screens with meshes small enough to exclude trout fry would, in many cases, practically shut off the water from the ditch. It is true that some of these ditches carry many small fish on to the fields to die, but the total value of the fish products of these streams does not equal the one thousandth part of the value of these waters to the orchards and fields. That we have in these matters exercised and carried out the intention of the Legislature is not open to question.

The importance of the work in Southern California and Humboldt County has made it advisable to keep a man stationed in each of these localities during certain seasons of the year. By this means the supervision of the commercial fisheries and the enforcement of the fish and

game laws has been better subserved. We are glad to report that these districts are to-day in better condition than ever before.

Section 626*i* of the Penal Code, as amended by the last GAME LAWS. Legislature, has unfortunately made some enemies for game protection, since it allows the sale of game birds but two months in the year, while it is made lawful to shoot them during four months. This is indisputably good law, although it has been called class legislation. However unjust the claim may be that it is a discrimination in favor of sportsmen, it cannot be denied but that an adverse public sentiment has been aroused, particularly evidenced by the discharge of offenders tried by the Police Court of San Francisco.

It is an undisputed fact that the game of this State is decreasing. It therefore follows that it needs protection, not only within the confines of this State, but also in Alaska, where the destruction of wild-fowl eggs does more to decrease the abundance of ducks than does hunting them here. Our game is too valuable a resource not to receive the consideration it demands at the hands of our people; but, until all classes are united for the common purpose of protection, a law like the present one only serves to incite the aggrieved parties to disobey it, and that leads to the infringement of other laws.

The repeated failures to convict the dealers arrested for selling game when it could be legally shot but not sold, is, in itself, sufficient to prove that public sentiment does not sustain the law. The law does not place the restriction upon the market-hunter that is claimed for it. Many birds are from the opening of the killing season placed in cold storage until such time as they can be legally sold. Complaints against the workings of this law have been made to your Commission from all sections of the State. The press of the State has voiced public sentiment in its demand that the seasons shall be made alike to all.

We recommend that restrictions upon the sportsman and the market-hunter be made alike. We realize that this will be opposed by some sportsmen, but the law will then receive public approval and end the effective cry before a jury that it is legislation for the sportsmen against the people, and that sportsmen do not care to protect the game, except for themselves, and not for a food supply. The marketmen are in favor of game protection, but insist that the open season, be it longer or shorter, shall be the same for all.

It is well known that kindly feelings do not exist between the so-called sportsmen and the market-hunters and dealers. All have their rights, and it is not our intention to advocate laws favorable to any class. We simply recommend that such laws be enacted as will serve the best interests of all.

A special effort was made to enforce Section 626*i*, and prohibit the buying and selling of game in the markets of San Francisco, both before and



after the season allowed by law. Evidence of the most conclusive character was introduced in court by Deputy Attorney-General Jackson, who conducted the prosecutions, yet it was impossible to convict except in one case. In several of the strongest cases every effort was made to convict, but a verdict of "not guilty" was returned so quickly by the juries that the Police Judges stated, in dismissing the balance of the cases, that they were satisfied that, though the evidence was conclusive, convictions could not be had under the law, and that they could not block the administration of justice in their courts by giving places on the calendar to such cases. Orders were given by the various Judges to issue no more complaints under that section.

So unpopular is this law, and so sure were the marketmen of the result of all arrests, that but little effort was made to conceal their violations. Most any one, unless he were a recognized officer, could buy game birds at any time, and we were powerless to prevent it.

In order that the dealers might not lose their regular customers, many of them who would otherwise have observed the law were obliged to sell game out of season, because other dealers less conscientious were doing so. These dealers when arrested, rather than suffer the annoyance of a trial, pleaded guilty and a small fine was imposed, making our record of convictions less humiliating.

In the counties where Game Wardens have been appointed, the success of the system has been fully demonstrated. The people observe these laws and demand their enforcement, and the courts have supported the Wardens in their administration. It is unfortunate that more Boards of Supervisors have not been sufficiently alive to the value of these interests and appointed Game Wardens. One live man in each county of this State would effectually stop infractions of the law.

On account of the vast area requiring protection, and the small force of men at our disposal, it has been impossible to keep a man in a given locality longer than a few days at a time. The presence of a deputy is sufficient to stop all poaching in that vicinity so long as he remains, but poaching is resumed as soon as he is ordered to other fields. This condition has been to some extent remedied in many sections by the appointment of deputies who serve without pay. Their service, however, is not as efficient as it should be, because they cannot afford to spend much time, nor do they care to incur the displeasure of poachers. The payment of a moderate salary to a man placed in a territory sufficiently small for him to cover well, will reduce poaching to a minimum. He may not make many arrests, but his presence will serve to warn violators of what may be expected of an infringement of the law.

Because we deem the present system for the enforcement of the fish and game laws to be inadequate, we invite your attention to recommenda-

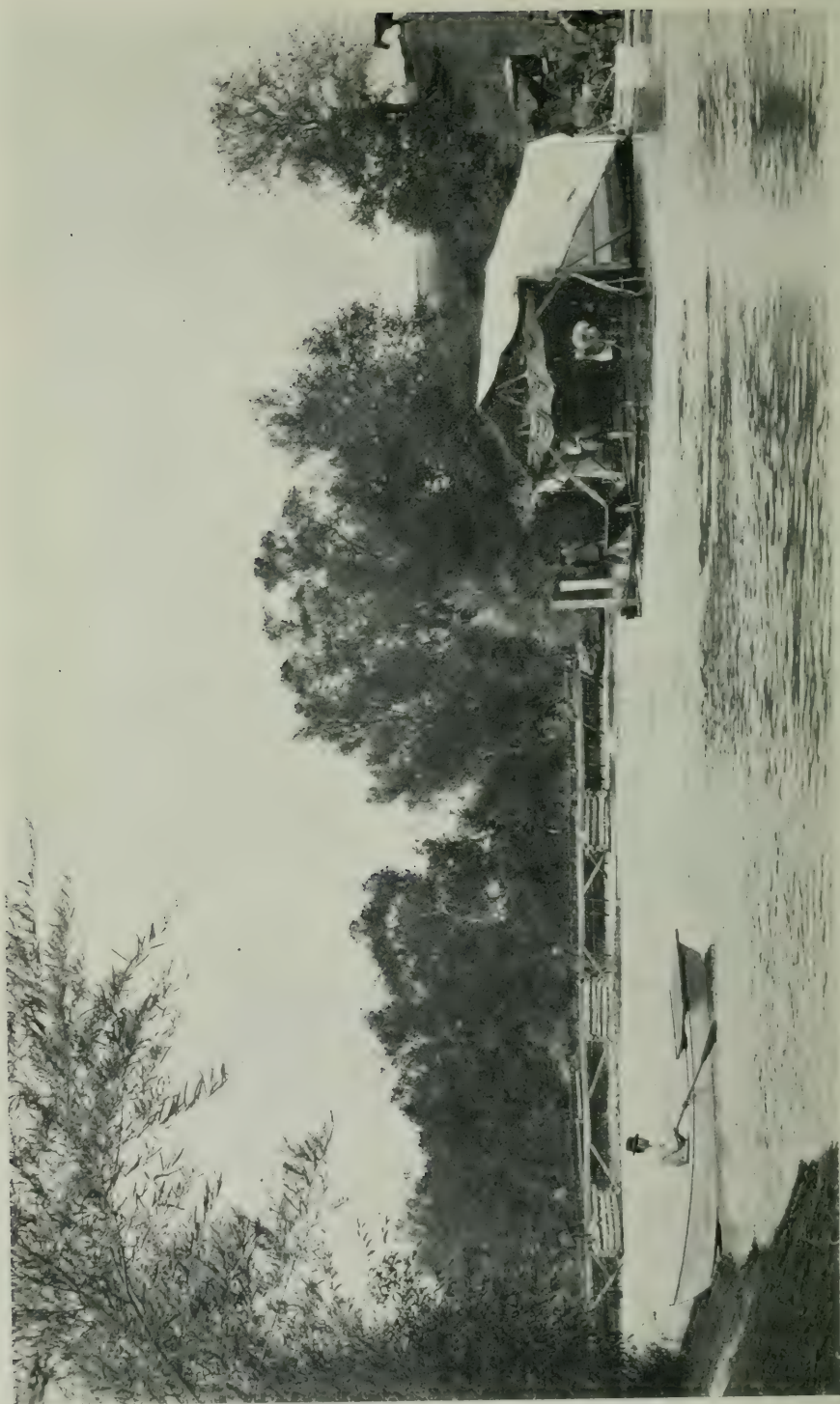


## Summary of Arrests Made by Deputies of Fish Commission, and Outcome of Cases, for Two Years ending September 1, 1896.

Number of Arrests.	Charged With—	Pleaded Guilty	Jury Trial	Convicted	Amount of Fines	Days' Imprisonment	Paid Cost of Court.	Acquitted	Cases Dismissed	*Complaints against John Doe	Remarks.
7	Selling and possession of salmon, close season	4	5	2	\$129 00			3	1		Sixteen cases dismissed in Del Norte County.
22	Catching salmon, close season	1			100 00				16	6	
9	Saturday and Sunday fishing for salmon	2			200 00				1		
15	Illegal mesh-nets	6	5		400 00			5	4	12	
18	Set-nets							5	1		
16	Fishing without a license	10		6	89 70		6				Jury disagreed; conviction secured second trial.
2	Use of sturgeon gear		2	2	200 00					7	
9	Set-nets in Russian River	2			50 00			1	4		
9	Taking steelhead trout with net	4	1		30 00			1			
1	Selling steelhead trout							1			
1	Taking trout with trap										
17	Taking trout, close season	10	5	3	121 00	10	2	2	1		Test case.
11	Possession of underweight lobsters	7	3	1	69 20	25		2			No bond required by Judge; defendant escaped.
1	Possession of underweight striped bass	1			5 00						One defendant forfeited bail.
2	Dumping sawdust into streams							2			
1	Possession of deer meat, Humboldt County	1			32 00	8					
1	Possession of deer skins		1	1		50					
1	Selling deer meat	1			10 00						
5	Use of big-bore guns	1	2						2		One case dismissed; hung jury.
7	Shooting ducks, quail, and grouse out of season	4	3	1	45 00			1	1		One case dismissed; hung jury.
1	Possession of quail	1			20 00						
1	Possession of quail	15	3	1	120 00			2	8		
26	Selling ducks and quail out of season										
182		69	29	19	\$1,620 90	93	8	24	39	25	

\* Nets held for evidence and never claimed. Owners ran off and left nets.  
 17 sets of sturgeon line taken up. Same never claimed.  
 1,850 pounds salmon seized on wharf. Same never claimed.  
 8 bales Oregon deer hides seized from steamer. Same never claimed.





RACK AND WEIR.—BATTLE CREEK HATCHERY.

tions for legislation which we think will, with little expense, save many dollars to the State, and result in great benefit to our fish and game interests.

That you may more readily see in detail the number and character of arrests made by our deputies, we call attention to the table on opposite page, showing a record of the work in this regard.

Never before in the history of the California Fish Commission have such rapid strides been made in the introduction and propagation of valuable food and game fishes as during the last two years. Having such varied characteristics of land and water formation, some suitable location can be found in this State for the transplanting of nearly every variety of food and game fish. To this cause, in great measure, is due the success of the Commission in securing such grand results.

Dr. H. M. Smith, of the U. S. Commission of Fish and Fisheries, says, in his paper already referred to:

"The results attending the experimental introduction of aquatic food animals into the waters of the Pacific States must be regarded among the foremost achievements in fish culture. The striking illustrations here presented of the influence of man over the supply of free swimming anadromous fishes, to say nothing of his ability to affect the abundance of non-migratory species, are of great economic and scientific interest. Aside from the great economic results which have followed the introduction of east-coast fishes into the waters of the Pacific States, a very important basis has been furnished for judging of the general effects of artificial methods in regions where the object of fish-cultural operations has been to maintain and increase the abundance of native species." (p. 379.)

While our operations have in great measure been devoted to the propagation of the native species of fish, we have also endeavored to stock all suitable waters with imported species, and have introduced several new varieties of trout.

From a desire to further increase the run of salmon in the Sacramento River, we caused a thorough investigation to be made of its headwaters, with a view to establishing a spawning station. This investigation covered a period of two seasons, and resulted in the erection of a hatchery near the mouth of Battle Creek, in Tehama County, in September, 1895. Battle Creek is the large stream of water which divides Tehama and Shasta counties on the east side of the Sacramento River. It takes its source from Mount Lassen, and carries a large volume of water during the entire year. It is not subject to floods during the early winter months. Salmon enter this stream in large numbers during the months of October and November.

The Battle Creek station is located on the lands of Mr. Frank R. Love, of Anderson, who generously donated to the State a lease for five years of such land as was required for buildings. The necessary water is supplied to the hatchery from Battle Creek through a ditch some three



quarters of a mile long. The right of way for this ditch was also donated by Mr. Frank R. Love and Messrs. J. & A. Nunes.

The building erected is 90 by 40 feet, and is fitted with sixty hatching-boxes, a capacity of ten million eggs. The salmon are retained at the station by a rack or weir, placed across the creek, which is 173 feet long, and is sufficiently supported by five bulkheads to withstand a rise of 6 feet in the water.

The building, racks, and equipments cost the State \$2,600, less \$500 donated by the salmon canneries on the Sacramento River. The bills were paid out of the Fish Commission Fund. The work of construction was begun in September, 1895, and the first spawn was taken on the 21st of the following month. On November 12th, the full capacity of the hatchery—ten million—was reached. The run of spawn-fish showed no signs of abatement at the time we ceased operations, and the racks were removed from the creek that the balance of the run might pass up to their natural spawning-grounds. Double the amount of spawn could have been taken had the capacity of our hatchery permitted.

The eggs taken were eyed at Battle Creek and then forwarded to Sisson to be hatched, the latter place being deemed a more suitable and economical point for distribution. We sent one million eggs to the United States hatchery at Clackamas, Or., and were thereby pleased to repay in part some of the many kindnesses received from the National Commission.

*Summary of Salmon Output from Battle Creek Spawning Station during Year of 1895.*

Point of Shipment.	Eggs.	Fry.
Sisson Hatchery.....	9,000,000	.....
U. S. Commission station, Clackamas, Oregon.....	1,000,000	.....
Total .....	10,000,000	.....

This location is most favorable for the taking of salmon spawn, there being almost no limit to the number of eggs which can be secured there with proper apparatus. In order that every advantage might be taken of the benefits of the station, realizing that large appropriations would be necessary for us to carry on the work, we made a proposition to Capt. John J. Brice, U. S. Commissioner of Fish and Fisheries, to enlarge and operate it. The matter received his prompt attention. One of his staff in Washington was detailed to visit the station and to report upon its advantages. This report so pleased him that he visited the station and made personal investigations. He attended the August meeting of this Board and requested the privilege of erecting temporary buildings that would enable him to handle the surplus after we had filled our hatchery. He stated that he was desirous of purchasing the station, but that before

this could be done it would be necessary for Congress to make an appropriation for the purpose. You will recall that we submitted this entire question for your approval before entering into these negotiations. We deem it to the State's best interests that this station be sold to the U. S. Commission at cost, and the moneys so received applied to increasing the capacity of the hatchery at Sisson, or to the establishment of another salmon station.

The Sisson hatchery has been operated to its full capacity during the last two years, as the summary of distributions from that station will show. It would be a material assistance to our work if the capacity of this station could be increased.

The greater portion of the summer and fall take of salmon eggs at the United States station at Baird, on the McCloud River, were sent to us as usual, and hatched at Sisson. They numbered 3,587,000 in 1894, and 6,750,800 in 1895.

All of the new varieties of trout distributed throughout the State were hatched here; also the native rainbow and cut-throat eggs received from the Shovel Creek and Tahoe stations, and the take of salmon eggs at Battle Creek.

A lease for five years of the ground just west of the old nurseries was obtained from Mrs. L. M. Sisson for the nominal sum of \$1, and a small lake constructed thereon by raising an embankment on two sides. We could not have handled the large number of salmon eggs hatched there without this lake, as the capacity of the hatchery was entirely inadequate. The alevins were put in the lake soon after hatching, and after the sac was absorbed the young fry were daily fed until the screens were removed and they were allowed to escape into streams tributary to the Sacramento. This lake, together with Sisson and Klink's lakes, which are leased by us, afford ample rearing ponds for fish. Sisson Lake now contains large-mouth black bass, and 20,000 brown trout fry have been placed in Klink's Lake, where they will be kept for breeding purposes, and the new lake now contains some 3,000 Loch Leven trout, from which we hope to obtain spawn another season.

*Summary of Distribution of Fish from Sisson Hatchery during Years 1895 and 1896.*

Species.	1895.		1896.	
	Fry.	Yearlings and Adults.	Fry.	Yearlings and Adults.
Salmon .....	3,435,000	-----	14,283,180	-----
Cut-throat trout .....	1,970,000	-----	1,741,650	-----
Rainbow trout .....	105,000	-----	-----	-----
Eastern Brook trout .....	197,000	-----	-----	-----
Dolly Varden trout .....	5,000	-----	2,000	-----
Mackinaw trout .....	65,000	-----	-----	300
Loch Leven trout .....	-----	314	-----	1,697
German Brown trout .....	-----	-----	105,000	-----
Landlocked salmon .....	-----	-----	-----	250
Totals .....	5,777,000	314	16,131,830	2,247

The golden trout which were brought to us by the members of the Visalia Sportsmen's Club were placed in one of our ponds at the Sisson hatchery, where they thrived until attacked, just before the spawning period in 1895, by some disease, which killed them all.

The operations at Shovel Creek station, both in 1895 and 1896, were almost a failure, because the ladder on the dam in the Klamath River at Pokegama was washed out by the high water. For this reason the take was barely sufficient to enable us to fulfill our agreement with the Fish Commissioner of Nevada to give him 300,000 rainbow-trout spawn in exchange for a like number of eastern brook-trout eggs.

*Summary of Rainbow Output from Shovel Creek Spawning Station for Years 1895 and 1896.*

Point of Shipment.	1895.		1896.	
	Eggs.	Fry.	Eggs.	Fry.
U. S. Fish Com. Stations—				
Wytheville, Va. ....	10,000	-----		-----
Neosho, Mo. ....	10,000	-----		-----
Nevada Fish Commission .....	113,000	-----	125,000	-----
Sisson Hatchery .....	126,500	-----		-----
Wawona Hatchery .....	-----	-----	320,000	-----
Shovel Creek .....	-----	10,500	-----	25,000
Totals .....	259,500	10,500	445,000	25,000

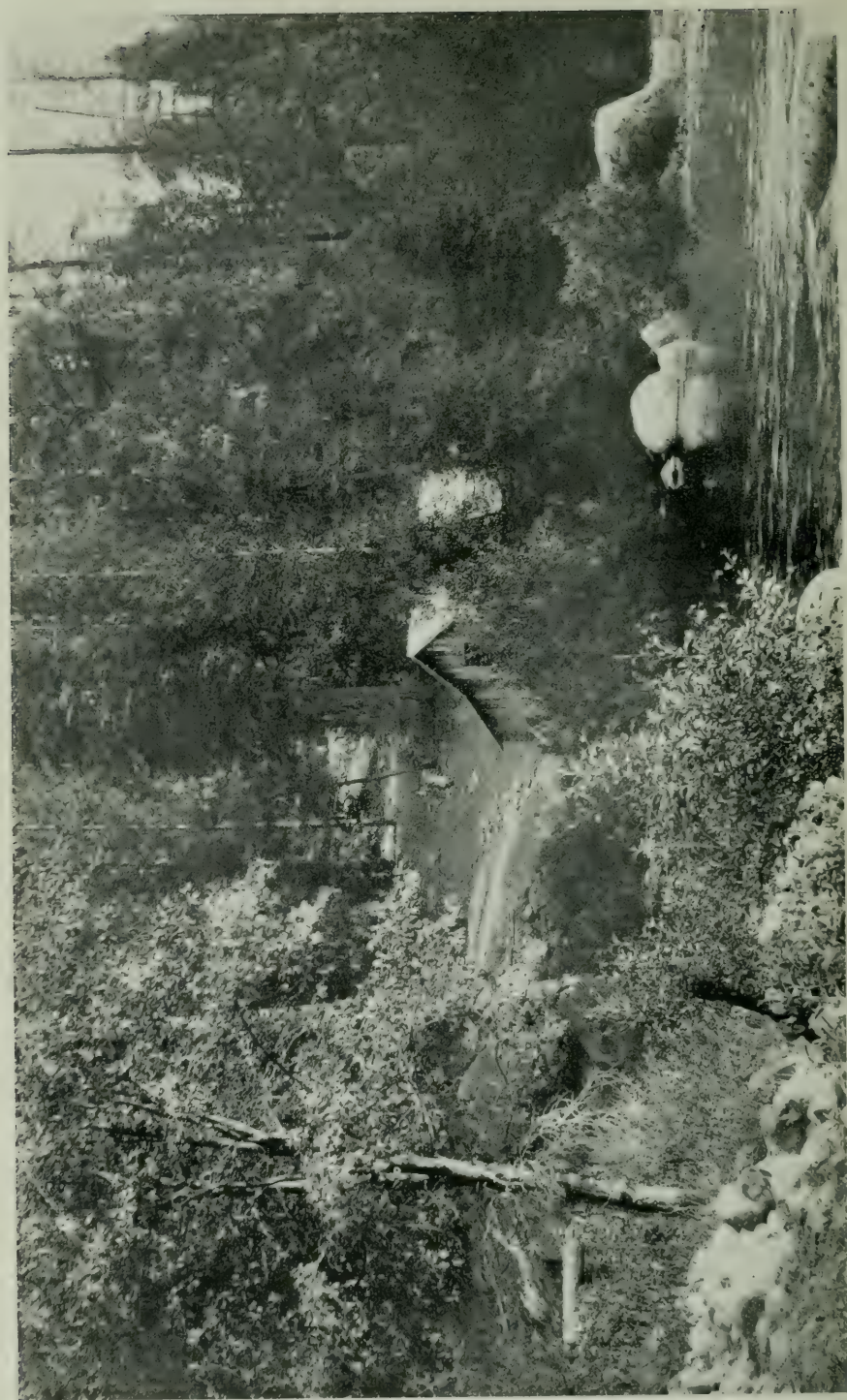
It has not been deemed expedient to operate the Bear Valley hatchery in Marin County during the last two years, for the reason that it was more economical to concentrate our hatchery operations at Sisson.

The amount of cut-throat trout spawn taken at Lake Tahoe has exceeded that taken in any previous two years. The hatchery at Tahoe City has been operated to its fullest capacity, all of the eggs, with the exception of those hatched at the new hatchery near Tallac, being eyed there. The water-supply at this station is hardly sufficient for the needs of the work, and with the increased take during the last two years it has been rather a difficult matter to carry on the work with the crowded condition of the boxes. This condition was somewhat relieved by shipping the eggs to the Sisson hatchery as soon as possible.

A temporary hatchery was erected by M. Lawrence & Co., proprietors of the Tallac House at Lake Tahoe, on Taylor Creek, in 1895, but the water-supply was not satisfactory. This year a permanent building was placed by them some three miles from the hotel, on a stream which affords a supply adequate to every need. The operation of this hatchery was placed under the control of







WAWONA HATCHERY.—CALIFORNIA FISH COMMISSION.

this Commission, upon condition that we operate it to its greatest capacity and place the fry in public waters in that vicinity. Our operations at Lake Tahoe have been promoted in every way possible by M. Lawrence & Co., and other residents.

Operations were carried on both years on Taylor and Blackwood creeks, the former proving more productive, as the following table shows:

*Take of Cut-Throat Trout Eggs at Lake Tahoe.*

	1895.	1896.
Taylor Creek.....	4,240,000	4,014,700
Blackwood Creek.....	160,000	349,300
Totals.....	4,400,000	4,364,000

Incident to our operations at Lake Tahoe, an unfortunate working of the law for the protection of trout ought to be mentioned. From this locality are annually taken for the markets over 50,000 pounds of trout. The season for taking trout opens on April 1st. An examination of our spawning records will show that the trout of Lake Tahoe do not begin to spawn before April, that the greater number spawn in the latter part of April and during May, and that a considerable number do not spawn until June. This is equally true of the fish in lakes Donner, Independence, and Webber, and the tributary streams. These fish are in the best marketable condition from July to January. This matter has been called to the attention of the Boards of Supervisors of El Dorado, Placer, and Nevada counties, but with the exception of Placer County, no action has been taken.

*Summary of Distribution of Fish from Tahoe Hatcheries during Years 1895 and 1896.*

Station.	Point of Shipment.	1895.		1896.	
		Eggs.	Fry.	Eggs.	Fry.
Taylor Creek ..	Waters in vicinity .....		400,000		
Tallac .....	Waters in vicinity .....				728,000
Tahoe City .....	Waters in State .....		890,000		1,023,000
.....	J. Annin, Jr., Caledonia, N. Y. ....	25,000			
.....	N. Y. Fish Commission .....	25,000			
.....	Sisson Hatchery .....	2,160,000		1,910,000	
.....	Wawona Hatchery .....	500,000		200,000	
.....	U. S. Fish Commission .....				
.....	Car, No. 3 .....	*200,000			
.....	Home Products Exposition .....			16,000	
Totals .....	.....	2,910,000	1,290,000	2,126,000	1,751,000

\*Alevins.



The inaccessibility of the region in and about the WAWONA. Yosemite National Park has made it extremely difficult to stock its numerous waters with fish. This difficulty was obviated by the erection and equipment of a branch hatchery at Wawona, Mariposa County, in the spring of 1895, by Messrs. Washburn Bros., proprietors of the Yosemite-Raymond stage line. This hatchery was turned over to this Commission, to be operated upon condition that an annual hatch of 500,000 trout eggs should be distributed in that vicinity. This station is well located geographically, but unfortunately the temperature of the water rises considerably during July and August. In 1895 the first shipment of cut-throat trout eggs reached Wawona on June 10th, but by sending eggs to this station in April, this year much better success attended the season's work. At the close of operations in 1895 we caused a thorough investigation to be made of the streams and lakes of the Yosemite National Park, in order that an intelligent distribution might thereafter be made. Acting upon the result of these investigations we made a special effort this year to stock the most favorable waters of the Park. The result is shown in the table of distribution in the Appendix.

*Summary of Distribution from Wawona Hatchery.*

	1895.	1896.
Cut-throat fry .....	293,000	160,000
Rainbow fry .....		284,000
Totals .....	293,000	444,000

In the operation of this station our men have at all times received the cordial support and aid of Messrs. Washburn.

In the distribution of fish from the Wawona hatchery we have been materially assisted by the United States troops stationed near Wawona. In 1895, Capt. Alex. Rodgers, and in 1896, Col. S. B. M. Young, Fourth Cavalry, U. S. A., placed their teams and pack trains at our service and detailed the necessary officers and men to assist us.

It will be seen from the list of distributions of fish from DISTRIBUTION. the Wawona hatchery that the entire shipment leaving the building did not always reach the streams named. The distributing trips consumed from two to four days with pack trains over trails sometimes almost impassable. Considering the difficulties encountered, all concerned were gratified if a sufficient number were placed in the lake or stream to eventually stock it. Fish cans, especially adapted to the transportation of fish by pack animals, were designed for this work; and with the new, large round cans purchased, we are now well equipped for distributing fish throughout the State.

In the distribution of fish in the counties where Game Wardens were

appointed, the fry have been consigned to them, and they have given them a wider distribution than otherwise would have been possible, and for this reason those counties have been favored with larger consignments than counties where there is no Game Warden.

With the exception of the landlocked salmon and Mackinaw FRY and Loch Leven trout, all the fish distributed from eggs PLANTING. hatched at our stations have been feeding fry. We are alive to the advantages of planting yearlings, and aware of the position taken by the National and State Commissions upon this question but the conditions in our waters are much different than in the Eastern streams. Our mountain streams are in the main free from darters and other predaceous fishes, except trout. Our laws do not permit the closing of the portion of streams stocked, nor do they regulate the size of trout to be taken. The unqualified success of the planting of trout fry in this State, and the greatly added expense of rearing any considerable number of yearlings under our present limited appropriations, make it inadvisable and impracticable. The fact that hand-fed fish also lose the instinct of self-preservation to a great degree, must be taken into consideration. The success of planting salmon fry, as soon as possible after the sac is absorbed, in the headwaters of the Sacramento River, cannot be questioned. A close inspection of these small streams during the last few winters has shown them to be swarming with young salmon that immediately seek shelter upon the approach of the observer.

The U. S. Commission of Fish and Fisheries brought out LAKE and planted in the waters of the Feather River, near Grid-CUYAMACA. ley, and in Lake Cuyamaca, San Diego County, in 1891, 500 catfish (*Ictalurus punctatus*), 6,980 yellow perch (*Perca flavescens*), 2,610 large-mouth black bass (*Micropterus salmoides*), 285 crappie (*Pomoxis annularis* and *P. sparoides*), 500 rockbass (*Ambloplites rupestris*), 500 pickerel (*Lucius vermiculatus*), and a number of green sunfish (*Lepomis cyanellus*) and golden shiners (*Notemigonus crysoleucas*). It is reported that these fish have done well in the Feather River; just how well, it is, of course, impossible to tell. In order that the National Commission might know the results attained in Lake Cuyamaca, we sent a representative there in January, 1896, who reported that large numbers of all of the above varieties were found except the crappie and rockbass. Upon application, permission was granted by Mr. L. F. Doolittle, Secretary of the San Diego Flume Company, to take fish from the lake for distribution. As early as the weather would permit, we sent two of our men to Lake Cuyamaca, who secured sufficient fish to make a total distribution of 541 large-mouth black bass, 27 pickerel, 454 yellow perch, 116 sunfish, and 253 shiners (fish food). These fish were nearly all full grown, varying in size from one half to five pounds, and most of them with ripe spawn, so that good results



may be expected in all waters stocked. We placed the bass in the Sacramento River, in Tulare and Clear lakes and their tributaries, believing that they will thrive in those waters on the carp and suckers found there in large numbers. We have also stocked several ponds and lakes in various parts of the State with these varieties, reserving the right to take fish from them at any time for stocking purposes. We have also placed a number of fish in one of the ponds at Sisson, where we intend holding them for breeding purposes.

For the purpose of distribution during the two seasons  
**SMALL-MOUTH** last passed we have drawn upon the supply of small-  
**BLACK BASS.** mouth black bass in the lake of the Benicia Water  
 Company, in conformity with the contract made when  
 this lake was stocked. Through the courtesy of Mr. James L. Flood we  
 have also been permitted to take this variety of bass from his lake. The  
 largest distribution of black bass ever made in this State was made dur-  
 ing the season of 1895. The chief source of supply was Russian River,  
 where the fry was taken in large numbers. Unfavorable conditions this  
 year made it impossible to take any fry from this stream.

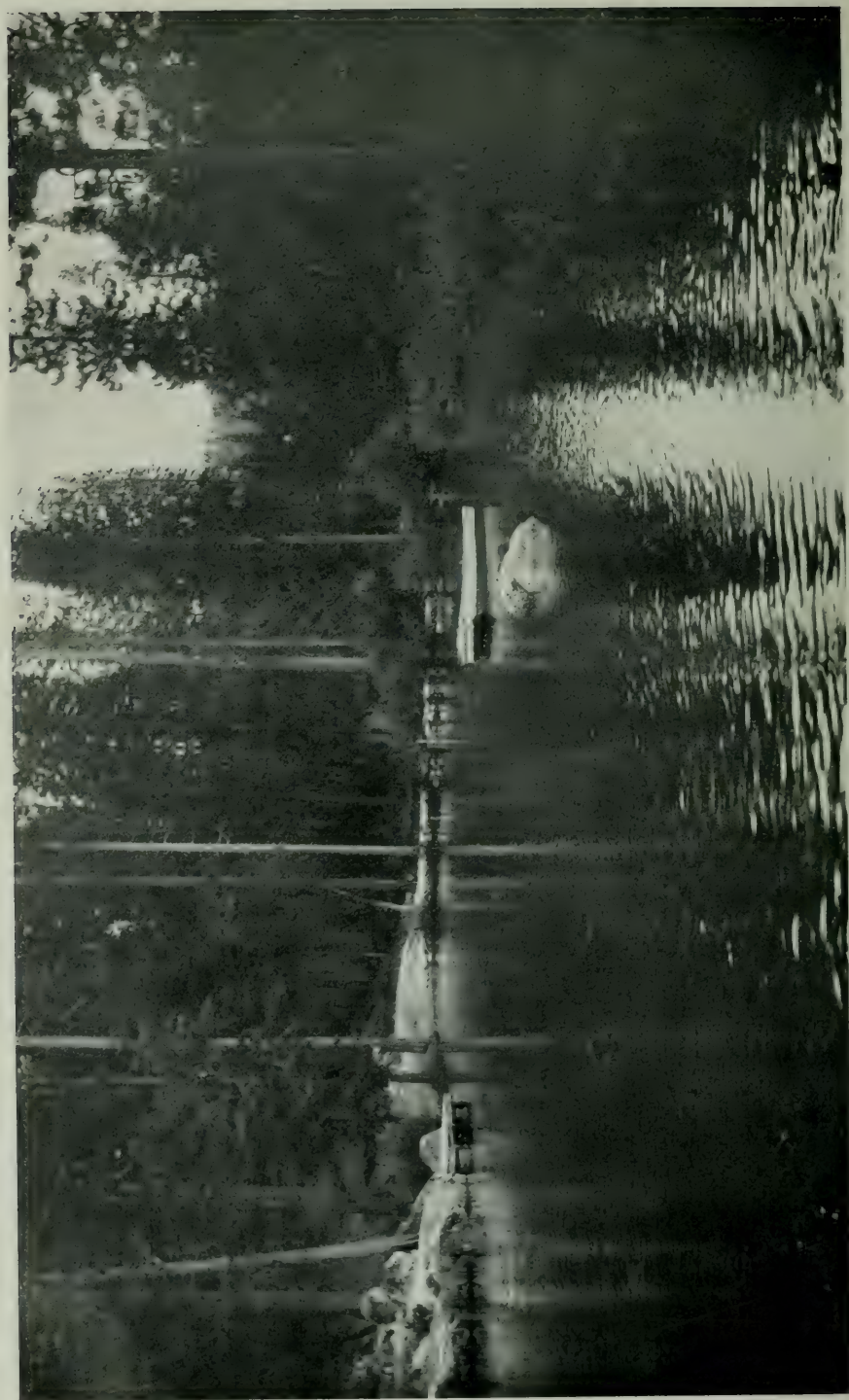
We received 100,000 Mackinaw (*Salvelinus namaycush*)  
**IMPORTATIONS.** from the U. S. Fish Commission station at Northville,  
 Mich., and 10,000 landlocked salmon (*Salmo salar*  
*sebago*) from Greenlake, Me., in 1895. In exchange for a like number  
 of German brown trout (*Salmo fario*) eggs, we sent Mr. J. Annin, Jr.,  
 of Caledonia, N. Y., 25,000 cut-throat spawn in 1895. We also pur-  
 chased 100,000 eggs of this variety from him; and, with the 10,000  
 received from Hoopa Valley, through the courtesy of the U. S. Com-  
 missioner of Fish and Fisheries, a total of 135,000 were hatched at  
 Sisson.

Our request for a carload of large-mouth black bass was granted by  
 the U. S. Commissioner of Fish and Fisheries, and in June, 1895,  
 Car No. 3 reached here with 2,600 fingerlings. The expense of trans-  
 porting this car from Ogden was jointly borne by the Spring Valley  
 Water Company and your Commission, with the understanding that  
 one half the bass should be placed in their lakes. These bass arrived  
 in splendid condition, and were distributed as follows:

Lake Merced.....	300
Crystal Springs Lake .....	1,000
Buena Vista Lake, Kern County.....	50
Gay Pond, San Diego County.....	50
Elsinore Lake, Riverside County.....	50
Sisson Lake, for breeders.....	1,200
Total.....	2,650

Besides the bass, the car contained several other varieties of fish,  
 which were distributed as follows: Elsinore Lake, 18 sunfish (*Lepomis*  
*cyanellus*); Balsa Chico River, Orange County, 18 sunfish (same





REARING POND—WAWONA HATCHERY.—CALIFORNIA FISH COMMISSION.

variety), 8 Warmouth bass (*Chænobryttus gulosus*), and 18 catfish (*Ictalurus punctatus*). The following were sent to Sisson and placed in one of the rearing-ponds: 12 yearling white bass, 12 yearling Warmouth bass, and 3 adult yellow perch.

Applications are now on file with Hon. J. J. Brice, U. S. Commissioner of Fish and Fisheries, for a carload of pike-perch or wall-eyed pike and alewives. We are also desirous of obtaining a further supply of landlocked salmon and Loch Leven, Mackinaw, and German brown trout eggs. Applications will be made in due time for these, as well as the blue crabs and diamond-back terrapin, which we believe will do well in our waters. We have had some negotiations with U. S. Commissioner Brice and members of his staff, relative to planting in the Pacific Ocean certain varieties of Atlantic deep-sea fishes.



Summary of Distribution of Fish for years ending September 1, 1895 and 1896.

Source of Supply.	Species.	1895.			1896.		
		Eggs.	Fry.	Adults and Yearlings.	Eggs.	Fry.	Adults and Yearlings.
U. S. Station, Baird, Cal. ....	Salmon .....	.....	3,435,000	.....	.....	5,538,600	.....
Battle Creek Station .....	Rainbow trout .....	.....	.....	.....	.....	8,744,580	.....
Shovel Creek Station .....	Cut-throat trout .....	133,000	115,500	.....	1,000,000	309,000	.....
Lake Tahoe Stations .....	Dolly Varden trout .....	*250,000	3,553,000	.....	125,000	3,652,650	.....
Sisson Hatchery .....	Eastern brook trout .....	.....	5,000	.....	16,000	2,000	.....
Nevada Commission .....	.....	.....	197,000	.....	.....	.....	.....
U. S. Station—	Mackinaw trout .....	.....	65,000	.....	.....	.....	300
Northville, Mich. ....	Loch Leven trout .....	.....	.....	314	.....	.....	1,697
Northville, Mich. ....	Landlocked salmon .....	.....	.....	.....	.....	.....	250
Greenlake, Me. ....	German brown trout .....	.....	.....	.....	.....	105,000	.....
Hoopa Valley, Cal. ....	.....	.....	.....	.....	.....	.....	.....
J. Annin, Jr., Caledonia, N. Y. ....	Small-mouth black bass .....	.....	19,750	850	.....	.....	1,571
Russian River .....	.....	.....	.....	75	.....	.....	.....
Flood's Lake .....	Large-mouth black bass .....	.....	1,450	.....	.....	.....	.....
Benicia Water Co.'s Lake .....	Pickarel .....	.....	.....	.....	.....	.....	541
U. S. Station, Quincy, Ill. ....	Yellow perch .....	.....	.....	.....	.....	.....	27
Lake Cuyamaca .....	Lake Cuyamaca .....	.....	.....	.....	.....	.....	454
Lake Cuyamaca .....	Green sunfish .....	.....	.....	.....	.....	.....	116
Lake Cuyamaca .....	†Golden shiners .....	.....	.....	.....	.....	.....	253
Lake Cuyamaca .....	.....	.....	.....	.....	.....	.....	.....
Totals .....	.....	383,000	7,391,700	1,239	1,141,000	18,351,830	5,209

\*200,000 alevins.

†Fish food.

In February and March of 1896, at the request of the CRABS AND fishermen and others of Los Angeles County, we trans- CLAMS. planted, in prime condition, from the waters about San Francisco to those off the coast of Los Angeles County, 116 large crabs (*Cancer magister*)—56 males and 60 females. At our request the Supervisors of Los Angeles County passed an ordinance prohibiting the taking of this crab for three years. To show his appreciation of the above work, Mr. J. L. DeJarnatt, Vice-President of the Haniman Fish Company, of San Pedro, presented us with 8,000 razor-back clams, and these, together with 7,000 more which we purchased, were planted as follows:

San Francisco Bay, in outlet of San Leandro Creek.....	4,000
San Pablo Bay, in outlet of Petaluma Creek.....	4,000
Richardson's Bay.....	3,500
Tomales Bay, near Hamlet.....	3,500
	<hr/> 15,000

No attempt has yet been made to examine into the results of this experiment.

Reports upon the result of the attempt to acclimatize the PHEASANTS. Mongolian pheasant in 1894 indicate that the experiment has not been altogether successful. It was deemed best by our predecessors to pursue a method which has been fruitful of good results in Oregon. The old birds were sent to citizens in different parts of the State, and were confined in aviaries. They were to be held and their young turned loose. The hen pheasant will not sit on her eggs in confinement, and the attempt to hatch the eggs under domestic hens, as is done in Oregon, was not encouraging, as most of the chicks died when quite young. As a result of this experiment a few birds were turned loose, but we believe that better results will be obtained by turning the birds loose in favorable localities. A large number of birds have been imported into different sections of the State, notably in Santa Clara, Kern, and Tehama counties, and turned loose, and the most encouraging reports come to us regarding their welfare. We are of the opinion that this pheasant can readily adapt himself to the natural conditions of our State, and believe that the start already made to acclimatize him will be successful.

The Commission has given the matter of the protection GAME PRES- and cultivation of game considerable attention since the ERVATION. last Legislature made the appropriation applicable to game as well as to fish. It has been the practice of this and former Boards to give game all the protection possible, although no funds had ever before been provided for this work. With the small force of men at our disposal, the vast area to be covered, and the varied

fish interests demanding attention, it has not been possible to give this matter the attention it deserves.

We are of the opinion that the protection and propagation of fish and game will be best subserved by a division of the work, giving to one set of officers the fish-cultural work and the supervision of the commercial fish interests, and to the other the enforcement of the game and game-fish laws.

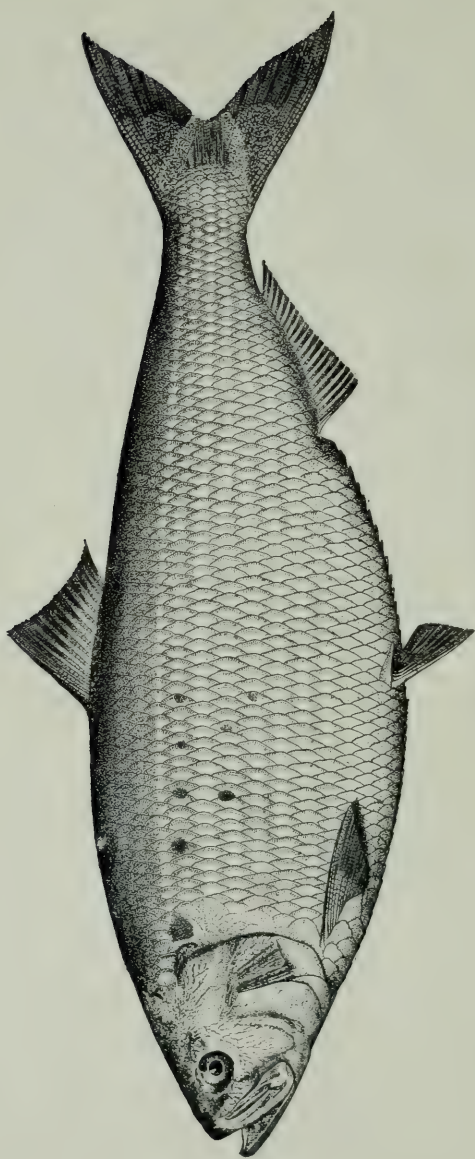
In order that we might inform ourselves and the better present the matter of game protection to you and the Legislature, and suggest the method most likely to be a success in California, we put ourselves in correspondence with the Fish Commissions and Wardens of the different States, asking for information concerning the protection of game, the success of the present methods, whatever they might be, and their ideas of the method most likely to accomplish the desired end. In many of the States, wardens are working under laws which enable them to thoroughly protect the game during the close season. Without a single exception all agree that the State is a great gainer when the proper attention is paid to game protection. In several of the States giving the most attention to game protection and cultivation, the fish and game interests are in the hands of one commission, which appoints and controls a game warden and his deputies, and these commissions report good results. In most of the States, however, the commissioners agree with us that, in order to get the best results, the game and fish interests should be separated.

In 1891 Minnesota took up the question of game preservation and enlarged the Fish Commission from three to five members, and made them the Board of Game and Fish Commissioners. They have an appropriation of \$20,000, of which \$9,000 is set aside for the salaries and expenses of game wardens. They also appoint an executive agent and superintendent of fisheries. Ohio has a Fish and Game Commission of five members, who appoint a warden. They have an appropriation of \$9,500 per annum. These two States can combine the management of the two interests to good advantage, as their natural conditions are favorable to it. This statement is also true of Wisconsin, with an annual appropriation of \$25,000. The game warden is appointed by the Governor, and is under the control of the Commission of Fisheries. This Commission favors the combining of the management of the two interests, but states that under existing circumstances the plan does not work well.

New York and New Jersey are very much alive to the necessity of liberal support in these matters, as the amount of their appropriations show. New York expends \$72,000 annually, and New Jersey \$30,000. In 1895 New York consolidated her Fisheries and Forest Commissions, and placed the work in the hands of the Fisheries, Game, and Forest







SHAD.—*Alosa sapidissima*.

Commission, composed of five members, the president receiving a salary of \$5,000, and the others \$1,000 per annum, with necessary expenses. They appoint a chief warden and thirty-six deputies, all under salary. New Jersey has a Fish and Game Commission of four members. The law provides for the appointment of twenty-five wardens, at a salary of \$600 a year each, with an allowance of \$200 a year for traveling expenses. These wardens are appointed by the Board of Fish and Game Commissioners, and out of the number so appointed the Board selects one to be chief fish and game protector, at a salary of \$1,200 a year.

It will therefore be seen that Minnesota, Wisconsin, Ohio, New York, and New Jersey all have large commissions, and the work is so divided among them that each branch receives its merited attention, and with their liberal appropriations they are able to employ a sufficient number of men to thoroughly cover their territory. With the exception of Ohio, these States are among the foremost in fish culture. With the exception of New York and New Jersey, none of these States have fisheries corresponding to our commercial fisheries, and this is true of New York only to a very limited extent. On the other hand, with the exception of the shell-fish industry, we have fisheries corresponding to all those found in any of the above-mentioned States, and, in addition, the salmon fishery, which ranks second in value in the United States; consequently, our fisheries, being more extensive than any of the States whose commissions advocate the consolidating of the management of the fish and game interests, demand more attention from us than do the fisheries of these other States. Our extended coast-line, along which the fisheries are developing, and demanding more careful attention year by year, is also a factor which does not enter into the work of any of these States, except New York and New Jersey, and with them only to a limited extent. Another factor entering into this comparison of the work necessary for game protection in this and the States named, is our vast area, almost equal to all of them combined. Quoting from the report of the California Fish Commission for 1893-94:

"There is but one State which exceeds us in area; nine that have more salt-water area (gulfs, bays, sounds, etc.), and four that have more fresh-water area (lakes, rivers, etc.); but six States have more miles of developed coast-line (or main land in the direction of the ocean), and but one State—Florida—has more miles in general or straight coast-line."

The Commission of Inland Fisheries and Game of Massachusetts deems it wiser to consolidate the management of the two interests, but from its reports we do not find that much attention is paid to game protection. They are given an appropriation of \$14,000 per annum. The other States favoring the consolidation referred to are Kansas and Utah. Both being inland States, the management of the fish and game interests

can perhaps be combined with advantage. In both these States the Fish and Game Commissioner is a salaried officer.

The Fish and Game Commission of Connecticut is allowed \$1,500 per year for salaries and expenses. They favor the consolidation of these interests. Their appropriations are all made for the propagation of fish. They say: "This State is doing substantially nothing to preserve game. It is advisable to protect the game of the State, and if not soon done there will be none to protect. This State should pay its Commissioners far better, and should make larger appropriations for the use of the Commission. \* \* \* We hope for better things at the next session."

The Vermont Fish and Game Commission, while favoring a consolidation for their State, say: "We think it depends much upon the size of the State, the amount of work expected to be done," etc. This commission has been greatly aided by the Vermont Fish and Game League, which has paid bills not legally acceptable to the State Auditor.

The New Hampshire Fish and Game Commission write: "We favor one commission in an inland State and two in a seaboard State."

Michigan has a Fish Commission and a Game and Fish Warden, and while the Fish Commission favors the placing of the administration of the fishery laws in its hands, it deems it wiser to keep the game and fish interests separated. The Commissioners say: "The propagation, distribution, and protection of game and game-fish is well enough, and is a matter to which the State may well give attention; but, in our opinion, the State is more deeply interested in the propagation, distribution, and protection of commercial fish than in anything else. Any Fish Commission which gives up its time to propagation, distribution, and protection of game and game-fish alone, is not living up to its possibilities." Michigan is fully alive to the value of this work, and shows it by appropriating \$33,200 annually for its maintenance.

Pennsylvania has a Fisheries Commission and a Game Commission, each composed of six members. The annual appropriation for the use of the Fisheries Commission is \$22,500. The Game Commission is given no appropriation. The Fish Commissioners favor the continuation of the existing conditions, and say: "In our State the fishing interests are many times more valuable than the game interests, so much so that the Fish Commission has always opposed mingling one with the other."

Maryland has maintained a Fish Commission for many years, and at the last session of the Legislature passed an Act authorizing the appointment of a game warden. He, as well as the two Fish Commissioners, are salaried officers.

In 1893 the State of Oregon appointed a fish and game protector under salary, who succeeded the Fish Commission, composed of three members. He writes: "From nearly four years' experience I have become convinced



that it would be better to separate the authority and responsibility for the enforcement of the laws for the protection of food fish from that of the protection of game."

The Fish Commissioner of Washington writes: "I do not think that the protection of fish and game should be under one commission, for the reason that, in our State, the commercial importance of the fisheries is so great that it demands the entire attention of one Commissioner and his deputies. I think the interests of the State would be best served by keeping the commissions for the protection and fostering of fish and game entirely separate. This State makes no appropriation for the protection of its game. I am of the opinion that a sufficient amount should be appropriated to allow the game warden a fair salary for himself and deputies, and also a reasonable amount for traveling and incidental expenses."

The Iowa and Nevada Fish Commissioners both favor consolidation, and believe in the protection of game, although this subject is receiving no attention in either State. Good work, however, is being done in fish culture.

There is a division of the work in Rhode Island, and the Commissioners of Inland Fisheries advocate a continuation of this policy, believing that it "requires men of especial fitness" for each department.

Colorado has four game wardens, who receive a salary of \$1,200 per year. The Fish Commissioner also receives a salary of \$1,200 as game warden. An ex-Commissioner writes: "I think that the two branches of work should be separate. The union of the two branches interferes with each other in various ways in our State."

The Secretary of the Illinois Fish Commission writes: "Personally, I am of the opinion that the supervision of the fisheries is a work by itself, and that the enforcement of the game laws should be in the hands of an entirely different set of men. I think the best interests of the State demand that the work should be divided." Illinois has three salaried game wardens, who are charged with the enforcement of the game laws.

In reply to our question as to whether or not one commission could supervise both interests with saving to the State, the Commissioner of Fisheries of Indiana replied: "It may be a *direct* saving to the State in money, but not in game and fish."

The President of the Game and Fish Commission of Montana says: "Under the present circumstances, with no appropriation, one commission is sufficient, but if we had an appropriation I think the interests demand separate game and fish commissions."

The Fish Commissioner and State Game and Fish Warden of Wyoming writes: "I think that the supervision of the fisheries and the enforcement of the game laws are not closely connected in this State,



and I know that the Fish Commission cannot properly attend to both. It is to the State's best interests, in my opinion, to have the work divided; each one will then receive more attention."

The Fish Commissioner of North Dakota says: "I do not think one commission can supervise both divisions with saving to the State. Its best interests, in my opinion, will be promoted by placing efficient officers at the head of the two departments."

The State of Maine has divided the work by creating two commissions, that of Inland Fisheries and Game, having three members, and the Commission of Coast and Sea Fisheries, composed of one member. They each receive a salary of \$1,000 a year, with necessary expenses. The Commissioners of Inland Fisheries and Game are allotted an appropriation of \$25,000 besides, and the Commissioner of Coast and Sea Fisheries has a special appropriation for his use. The former commission appoints the necessary number of wardens, who receive \$2 per day and expenses for every day actually employed. One of the Commissioners writes: "The value of fish and game is estimated at \$3,000,000 annually. The fish are of more value to Maine than her game—twice as much, I should say. One half of our appropriation is expended in the protection of the game, which is increasing very rapidly, especially the deer, which I honestly believe are more numerous than sheep. I have been on the commission since 1872. At the start the appropriation was only \$1,200 per year; since then it has gradually increased, and to-day the fish and game is one of the first, if not *the* first interest in the State, and brings in more revenue according to the money expended than any other interest we have. What we are doing the most of at present is the stocking of new lakes with new varieties of fish."

Many of the conditions existing in this State are different from those existing in the States referred to, and for that reason we cannot pursue the policy followed by any one of them. Situated as we are, on the borders of an ocean, rich in fish beyond compare, with two great rivers emptying into large bays, and with countless lakes and streams among the mountains, we certainly have greater natural facilities for the preservation and propagation of fish than any other State in the Union.

The figures given in this report testify to the fact that the value of our fisheries, under the supervision which the State Boards of Fish Commissioners have given them, are increasing; and that, under a continuance of this policy, the State must take the rank which is properly hers and continue to build up an industry which will make returns a thousandfold.

The natural conditions of our State are also most favorable for game, and yet we are not giving the question of its preservation the attention it is receiving at the hands of most of the other States. It does not behoove the State to continue to neglect the game interests. We should





TAHOE CITY HATCHERY.—CALIFORNIA FISH COMMISSION.

rather follow the example set by other States, none of which are more favored in this regard than are we. Minnesota, Michigan, Wisconsin, New York, Maine, New Jersey, Ohio, Colorado, New Hampshire, Vermont, Maryland, Oregon, Illinois, and Wyoming are yearly giving this subject more attention and more generous appropriation. The Fish Commission of this State certainly has its hands full in attending to the commercial fisheries, without caring for the great and varied game interests. We therefore believe that it would be for the best interests of the State to give to another commission or officer the enforcement of the game and game-fish laws, and leave to the Board of Fish Commissioners only the propagation of fish and the supervision of the commercial fisheries.

GAME. We are aware of the fact that to preserve the game for the sportsman, be he local or foreign, means the turning of  
STATISTICS. many dollars into the hands of our people. If for no other reason than this, we could not fail to point out to you and the Legislature the advisability of protecting our game, but it means more than this. We herewith present a statement of figures taken from the books of all the game dealers of San Francisco and Los Angeles, showing the receipts of game for the entire season by counties, and one giving them by months, for the purpose of showing the magnitude of this interest. Statements more in detail will be found in the Appendix.



TABLE No. 1—PROTECTED BIRDS.

Showing Receipt of Game Birds in San Francisco and Los Angeles Markets, and Counties from which same were shipped, during Season of 1895-96.

From County of—	Canvas- back.	Mallard.	Sprig.	Teal.	Widgeon.	Small Ducks.	Gray Duck.	Black- jack.	Red- head.	Butter- balls.	Wood Ducks.	Wire- talls.	Shel- drake.	Quail.	Doves.	Rail.
Alameda	126	24	383	611	92	309		2						2,445		
Butte	155	262	155	452	171	49								80		
Calaveras	6	27	5	48	16	8								5,289	65	
Colusa	25	1,129	488	371	503	124		11	12		3			507	8	
Contra Costa	430	1,435	850	986	578	408	359	684	4	4	26	7		399	5	
Fresno	9	2,215	2,067	2,654	1,779	275		2	5				1	964	1	
Glenn	3	82	163	1,722	2,003	11						5		78		
Kern	195	784	2,163	6,338	1,870	7,398		11	85		8		14	9,800	384	13
Kings	159	1,853	1,661	2,498	906	1,285	28	19	9	2	1		4	4,342	688	
Los Angeles	50	155	880	3,110	1,907	1,252				17				11,026	1,265	
Mariposa	149	51	64	51	41	21								953		
Marin	30	33	17	75	16	49		12						1,696		
Madera	1	40	57	43	37	14								208	38	
Mendocino														250		
Merced	79	7,255	5,816	27,211	13,743	2,928	14	31	8		4		143	2,733	20	
Monterey	131	188	152	113	48	67								39,831	72	
Napa	4	104	130	1,059	217	211										
Orange	60	156	1,085	1,157	605	1,246								8,351	1,568	8
Plumas														247		
Riverside	83		31	5	2											
San Bernardino	26	336	20	28	23	26		5						2,071	82	
San Diego	12	57	85	124	108	17								12,663	34	
San Joaquin	113	11	84	382	197	269	1	8						8,474	380	1
San Luis Obispo	98	7,879	1,936	4,210	2,095	1,168	15	396	25	29	13	6	12	9,679	63	
San Mateo	7	126	128	220	645	126	2	23	2	10	3			1,104		
San Francisco	3	31	5	31	2	4	2							25,526	99	
Santa Barbara	432	40	36	278	729	67	5	8	6					2,728		
Santa Clara	11	149	69	251	40	57				2				7,108		
Santa Cruz														700		
Sacramento	401	2,872	1,456	1,819	1,927	1,528	52	46	44	63	13			736	2	3
Shasta	66	304	66	111	110	48		18	2					2,773		
Solano	785	4,347	2,530	3,813	3,271	1,527	12	573	44	68	25	8	12	120	32	
Sonoma	996	1,107	222	610	170	283		18					6	7,238	121	2
Siskiyou	465	1,177	740	936	810	264	170	21	9	7				283		
Stanislaus	24	2,177	2,546	10,572	4,652	881		23	1	11				2,189	54	
Sutter	237	2,908	2,397	1,747	2,463	675	13	63	48		16	6	2	89		
Tulare		685	352	1,102	60	223								480	110	
Tuolumne															2	
Ventura		2	3	7											148	
Yolo	1,290	8,018	5,807	7,545	10,363	2,909		79	201	17	310	53	17	890	117	
Yuba	6	327	450	239	193	95		1		10				1,377		
Totals	6,259	47,565	35,022	82,625	52,522	25,882	671	2,001	519	328	440	89	217	177,366	5,160	27

TABLE No. 2—NON-PROTECTED BIRDS.

Showing Receipt of Game Birds in San Francisco and Los Angeles Markets, and Counties from which same were shipped, during Season of 1895-96.

From County of—	Larks.	Wild Pigeon.	Common Snipe.	English Snipe.	Curlew.	Plover.	Gray Geese.	White Geese.	Brant.	Honker.	Swan.	Crane.	Bittern.
Alameda		12	46	11	6		110	46	141				
Butte							10		2				
Calaveras	845	5		1			252	43	404	2			
Colusa				6			288	74	148	160	9		
Contra Costa	39		29	312	5	93	2,222	667	1,461	277	20	57	
Fresno			2	26			1,400	147	707	5			
Glen				9			57	32	47	2	7		
Kern		12	617	242	23	19	663	167	740	80		27	
Kings		15	2	42	2		17	16					
Los Angeles			738	634	551	789	13	21	2	12	6	2	
Mariposa				1									
Marin				19			35	3					
Madera	11		7	1			85		17				
Nerced	81		319	530	108	24	6,422	5,005	7,040	583	43	136	
Modesto							47	8	7				
Monterey	24	92		63			8			8	2		
Napa									1				
Orange			1,194	635	454	519	39	44					
Plumas				31			22	19	35	82		12	
San Benito	8			13			137	1	9				
San Bernardino			1										
San Diego													
San Joaquin			29	870		5	1,072	354	198	205	3	41	
San Luis Obispo		63	3	794	7	13	16	2	18				
San Mateo			10	22									
Santa Barbara			6	72		3		26			3		
Santa Clara				356			8				4		
Santa Cruz				3									
Sacramento	1	34	1	350			669	129	27	24	13		18
Shasta				6									
Solano	118	26		646	8		1,262	852	805	557	61	70	3
Sonoma	229	38	56	76		3	1			10			
Siskiyou			5	61									
Stanislaus	44		70	192	7		2,763	1,755	2,855	245	5	18	
Sutter		22	7	878			262	25	1,054	25	111	7	
Tulare	420	119	1	27		1	68	22	58	14		1	
Yolo	31	74	9	393	2	1	2,167	553	428	115	229	6	4
Yuba				2			32	15	4	3		2	
Totals	2,354	512	3,145	6,446	1,173	1,620	19,419	10,251	16,319	2,411	518	385	25

TABLE No. 3.  
*Showing Receipt of Game Birds in San Francisco and Los Angeles Markets, by Months, and giving Value of each Variety, for Season 1895-96.*

Month.	Canvas-back.	Mallard.	Spring.	Teal.	Widgeon.	Small Ducks.	Gray Duck.	Black-jack.	Red-head.	Butter-balls.	Wood Ducks.	Wire-tails.	Sheldrake.	Quail.	Doves.
October.....	58	1,057	1,528	5,374	1,469	357	.....	.....	8	.....	140	.....	5	2,419	180
November.....	1,569	15,034	10,261	19,016	15,993	4,939	206	217	116	9	37	.....	4	57,112	2,517
December.....	2,360	18,565	10,614	33,176	19,514	12,809	321	333	281	96	123	56	32	70,370	1,112
January.....	1,395	10,831	9,240	19,035	12,809	7,049	144	1,192	43	189	138	31	176	41,374	1,158
February.....	277	2,587	3,389	5,924	2,797	708	.....	177	71	34	2	.....	.....	6,091	193
Totals.....	6,259	47,565	35,022	82,625	52,622	25,892	671	2,001	519	328	440	89	217	177,366	5,160
Value.....	\$2,626 00	\$11,891 50	\$5,305 50	\$8,662 45	\$6,639 58	\$2,227 20	\$98 00	\$116 75	\$79 58	\$26 75	\$36 67	\$6 83	\$18 00	\$15,116 08	\$252 73
Month.	Rail.	Larks.	Wild Pigeon.	Common Snipe.	English Snipe.	Curlew.	Plover.	Gray Geese.	White Geese.	Brant.	Honker.	Swan.	Crane.	Bittern.	Total Value.
October.....	.....	166	96	184	130	23	9	2,381	932	714	.....	.....	34	.....	.....
November.....	4	369	155	1,149	1,903	289	519	5,999	1,823	4,837	340	51	82	5	.....
December.....	16	513	57	1,061	2,350	439	603	4,302	1,918	3,815	763	285	85	4	.....
January.....	7	922	151	693	1,700	418	430	4,064	2,564	3,751	881	156	99	16	.....
February.....	.....	384	53	58	363	4	9	3,103	3,014	3,172	427	26	85	.....	.....
Totals.....	27	2,354	512	3,145	6,446	1,173	1,620	19,419	10,251	16,319	2,411	518	385	25	.....
Value.....	\$3 33	\$98 00	\$42 67	\$212 55	\$753 88	\$45 33	\$63 58	\$4,042 30	\$856 50	\$2,040 00	\$703 50	\$174 25	\$192 50	\$10 00	\$62,362 01







TRAP—BLACKWOOD CREEK—LAKE TAHOE.

The money values here presented are the amounts received by the hunters, to which should be added the profits of the jobber and retailer.

To these figures must also be added the large amount of game which goes directly to the tables of our people, furnished by the army of sportsmen.

This amount of game is considerable as a food supply, comprising 332,630 pounds of ducks, 37,880 pounds of quail, doves, pigeons, lark, rail, and snipe, and 175,444 pounds of geese, etc. For several reasons these figures do not represent the true commercial value of our game, chiefly because the season was such an unsettled one, and because it has been impossible to reach all of the market centers.

In recommending to your consideration, and to  
**RECOMMENDATIONS.** that of the Legislature, the ways and means by which our fish and game interests may best be served, we would first call your attention to the necessary appropriations for carrying on the work.

The biennial appropriation of \$20,000 for the restoration and preservation of fish and game should, in consequence of an additional appropriation for game protection, be reduced to \$15,000, and made applicable to the restoration and preservation of fish alone. A biennial appropriation of \$10,000 is needed to carry on the work as outlined in the game-warden bill recommended herein. The biennial appropriation for the support and maintenance of State hatcheries should be increased from \$15,000 to \$20,000, if the demands of our people are to be met, and suitable steps taken to import and distribute additional salt and fresh water food fishes. We would also suggest that an appropriation of \$500 be made for a scientific investigation of the Sacramento and San Joaquin rivers, with a view of ascertaining what steps are necessary to increase the run of salmon in those streams.

A form of bill creating the office of State Fish and Game Warden follows, and explains itself:

*The People of the State of California, represented in Senate and Assembly, do enact as follows:*

**SECTION 1.** The Governor shall appoint a suitable person to serve as State Fish and Game Warden. Said warden shall hold his office for four years, or until his successor has been appointed and qualified. The Governor shall have power to remove the State Fish and Game Warden for misconduct, incompetency, or neglect of duty, after an opportunity to be heard upon written charges. He shall receive a salary of one thousand two hundred dollars per annum, payable monthly, and shall also be reimbursed his actual expenses necessarily incurred by him while engaged in the performance of his duties, said expenses not to exceed the sum of six hundred dollars per annum.

**SEC. 2.** Said State Fish and Game Warden shall, before entering upon his duties, execute a bond, with sureties to the State, in the sum of two thousand dollars, for the faithful and proper performance of his duties.

**SEC. 3.** Said State Fish and Game Warden shall enforce the State fish and game laws in all counties, and the municipal ordinances relating to the protection of fish and game.

and he shall be vested with all the powers of a peace officer to make arrests for the violation of such laws and ordinances.

SEC. 4. Said State Fish and Game Warden shall have power to appoint deputy fish and game wardens, who shall have the same powers and authority herein provided for the State Warden himself, subject to the control and supervision of, and removal by, the State Warden. Said deputy fish and game wardens shall receive three dollars per day for each day actually spent in the discharge of their duties, and their actual expenses necessarily incurred when so employed; but the number of deputy wardens shall not exceed twelve, and the total amount allowed for compensation and expenses of deputy wardens shall not exceed two thousand eight hundred dollars per annum.

SEC. 5. Said State Fish and Game Warden shall also have power to appoint, in each county, a person to serve as County Fish and Game Warden, who shall have the same power and authority herein provided for the State Warden himself, subject to the control and supervision of, and to removal by, the State Warden. Said County Wardens may be employed by individuals, clubs, and corporations interested in the enforcement of fish and game laws, and shall receive such compensation as may be allowed and provided for by the Board of Supervisors of their respective counties. The County Fish and Game Wardens shall also receive the usual constable fees allowed by law for the arrest and conveyance of prisoners to the proper court, said demand for fees to be certified to by the District Attorney of the county in which the arrest is made, and the claim presented to the Board of Examiners of the State, and acted upon by said Board as other claims against the State are acted on, and paid in the same manner, from the appropriations for "Costs and expenses of suits for the violation of fish and game laws," etc.

SEC. 6. Each and every deputy and County Fish and Game Warden shall, upon the first day of every month, file with the State Fish and Game Warden a report of his daily official acts during the preceding month, the number of arrests made, the number of convictions, and such other information as he may deem proper. The State Fish and Game Warden shall submit a biennial report to the Governor, as required by law.

SEC. 7. All Acts and parts of Acts in conflict with this Act are hereby repealed.

SEC. 8. This Act shall take effect from and after its passage.

We recommend that Section 626*i* of the Penal Code, referring to the sale of game birds, be repealed, and the shooting and selling season be made the same. We also recommend that mountain quail and grouse be killed only between September 1st and February 15th; that doves be killed only between August 1st and January 15th.

The words "or have in his possession" should be added to the law relating to the protection of deer—Section 626*c* and Section 626*d* of the Penal Code.

The law protecting pheasants for three years should be reenacted.

We recommend adding the following words to Section 627 of the Penal Code: "Every person who shall, for the purpose of shooting any kind of wild game, conceal himself behind any living animal, shall be guilty of a misdemeanor."

If the Act providing for the appointment of a State Fish and Game Warden becomes a law, the right to issue permits for the trapping and shipping of live game birds should be given to him; and if not, to the Board of Fish Commissioners. No provision for this is now made, except in counties having wardens.

If a warden be appointed, the moneys collected as fines for violations of the game laws should be paid into the State Treasury, and constitute



a fund for the payment of expenses for propagating, protecting, and introducing game birds into the State.

Provision should be made that it shall be no defense for any person to claim that game in his possession was caught or killed outside of this State.

The following recommendations regarding additions and changes deemed necessary in the fish laws are here submitted:

A section should be added to the Penal Code, forbidding the taking of black bass except with hook and line.

The law making it a misdemeanor to sell or possess a lobster of less than one pound in weight should be changed to read " \* \* \* of less than nine and one half inches in length, measured from one extremity to the other, exclusive of legs or feelers."

Section 635, relating to the taking of fish from any pond or reservoir which has been stocked with fish, should be amended so as to enable the Commission to more fully protect the rearing-ponds near our hatcheries. This can be accomplished by adding the words "or controlled by the State Board of Fish Commissioners."

A section should be added to the Penal Code forbidding the taking of female crabs at any time.

The laws relating to the taking of trout need revision, and the following wording is suggested:

SEC. —. Every person who takes, catches, kills, offers or exposes for sale, or has in his possession any rainbow trout (*Salmo irideus*), cut-throat trout (*Salmo mykiss*), eastern brook trout (*Salvelinus fontinalis*), brown trout (*Salmo fario*), Loch Leven trout (*Salmo trutta levenensis*), Mackinaw trout (*Salvelinus namaycush*), Dolly Varden trout (*Salvelinus malma*), or any kind of trout except steelhead trout (*Salmo gairdneri*), taken in tidewater, between the first day of December and the first day of May of the following year, is guilty of a misdemeanor.

SEC. —. Every person who buys, sells, offers or exposes for sale, any steelhead trout (*Salmo gairdneri*), between the first day of December and the first day of February of the following year, is guilty of a misdemeanor.

SEC. —. Every person who buys or sells, or offers or exposes for sale, or has in his possession, any kind of trout less than six inches in length, is guilty of a misdemeanor.

SEC. —. Every person who, at any time, takes or catches any trout except with hook and line, is guilty of a misdemeanor; *provided, however*, that steelhead trout (*Salmo gairdneri*) may be taken in tidewater between the first day of February and the first day of May, with lawful nets. A lawful net shall be considered a net that, when placed in the water, is unsecured and free to float with the current or tide, and the meshes of which are, when drawn closely together and measured inside the knot, not less than seven and one half inches in length.

It should be made a felony to use any explosive for the taking or killing of fish. Under the present law it is made a misdemeanor, and the punishment does not fit the crime.

The netting of fish in any stream upon which is located a State hatchery should be forbidden. A law to this effect already gives protection to United States hatcheries.

We recommend adding to the laws relating to the protection of sal-



mon an amendment to the effect that the plea of fishing for other kinds of fish will not constitute a defense, for the reason that such plea is often successfully interposed in a trial before a jury.

We also suggest that a law be enacted making it no defense, in any action, to contend that the fish were caught or taken outside the State.

The enforcement of the laws governing the commercial fisheries should be left with the Fish Commission, and not made a part of the duties of the Fish and Game Warden. All moneys collected as fines for the violations of the fish laws should be paid into the Fish Commission Fund.

The law for the prevention of the dumping of deleterious substances into State waters, which now reads, "Every person who places or allows to pass into any waters of the State any lime," etc., should be amended and made to read, "Every person who places or allows to pass, *or who places where it can pass*, into any of the waters," etc.

Some minor changes in the wording of the different sections pertaining to fish or game, which will make the filing of complaints and the prosecution of offenders less difficult, have been submitted to the Code Commissioners for their consideration.

If the Legislature deem it wise to follow out these suggestions, we are confident that the path of the poacher will be seriously obstructed, and the interests of both fish and game greatly benefited.

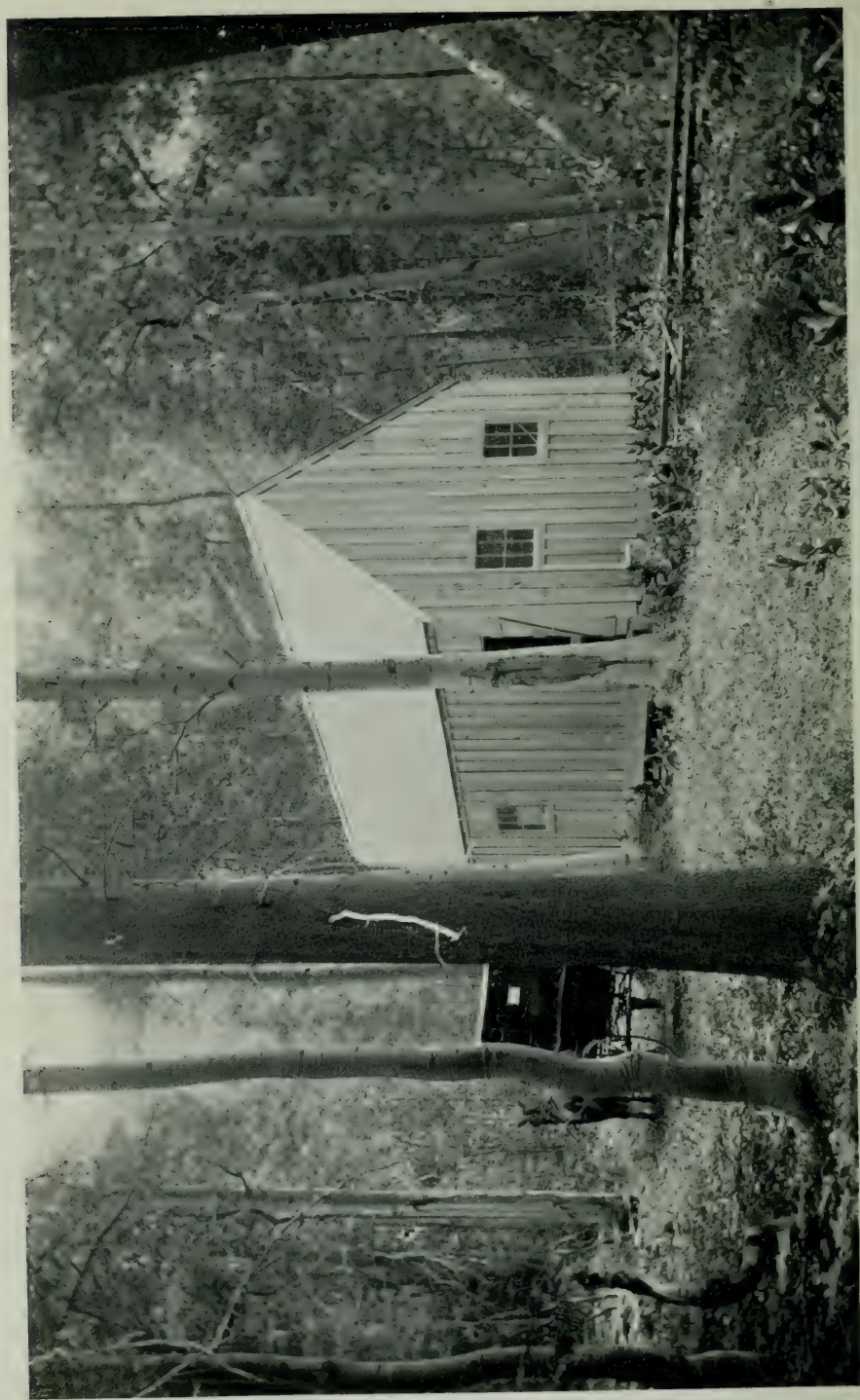
So many courtesies and kindnesses have been  
ACKNOWLEDGMENTS. shown your Commission by the people of our State that we feel under great obligations to them, and would be glad to make acknowledgment individually, did space permit. We desire specially to acknowledge the donation of fish and eggs from the United States Commission of Fish and Fisheries, and the kindly disposition shown to aid us in every way to increase the productiveness of California waters. We are also indebted to them for various statistics inserted in the pages of this report.

Our thanks are due the various railroads of the State for the free transportation of fish and men accorded us; for without this courtesy it would have been impossible for us to have accomplished what we have. We also express our thanks to their employes, who have aided our men in many ways.

We have been obliged to call upon Attorney-General Fitzgerald many times for opinions upon various subjects, and for aid in prosecuting various offenders against the fish and game laws. He has at all times met our demands upon his time with promptness, and given us every assistance in his power, and we extend to him and his assistants our hearty thanks.

Messrs. Washburn and M. Lawrence & Co. have merited our gratitude for the various kindnesses extended our men, and deserve the





TALLAC HATCHERY.—CALIFORNIA FISH COMMISSION.

thanks of our people for their generous actions in assisting us in our work in their localities.

Our thanks are due to the officers stationed in the Yosemite National Park for courtesies extended, and especially to Col. S. B. M. Young, Capt. Alex. Rodgers, Lieuts. H. C. Benson, J. M. Neall, S. McP. Rutherford, Fourth Cavalry, U. S. A., and Lieut. N. F. McClure, Fifth Cavalry, U. S. A., and the men of their commands.

We desire to thank the Sacramento River Packers Association and the Carquinez Packing Company for the substantial aid given us in the erection of the Battle Creek hatchery. We have also received various statistics from them.

To Mr. F. R. Lowe we extend thanks for his kindness in furthering the success of the Battle Creek station by giving us the use of such land as was necessary.

We are indebted to the San Diego Flume Company, the Benicia Water Company, and Mr. James L. Flood for allowing us to take fish for stocking purposes from waters controlled by them.

Our thanks are due Drs. David Starr Jordan and Charles H. Gilbert, of Stanford University, for their services in the classification of fishes and other matters where they have been called upon to aid us. Dr. Gilbert has about completed an examination of our waters, the result of which we had hoped to be able to include in this report.

We have received substantial aid from the various clubs interested in furthering the fish and game interests throughout the State, and especially from the Visalia Sportsmen's Association, Humboldt County Fish and Game Club, Gilroy Sportsmen's Association, Tule River Hunting and Fishing Association, the Salinas Gun Club, and the Sierra Nevada Sportsmen's Club.

We desire to thank the following market dealers for their kindness in allowing our deputies to take various figures of the receipts of fish and game from their books: American Union Fish Co., A. Paladini, G. Camilloni & Co., J. Kessing & Co., Pacific Coast Fish Co., B. Caito, Milani & Co., Pioneer Fish Co., S. Tarantino & Co., Fabris & Rivola, Vegilio, A. Parmisano, A. Bellanti, Campodonico-Malcolm Co., A. L. B. Immel & Co., H. Heckman & Co., L. Scatena & Co., C. Nauman & Co., J. Miller & Co., L. Dolheguy & Co., B. G. Ruhl & Co., J. H. Cain & Co., B. Miller, Compagno & Co., S. Levy & Co., L. Dallman & Co., Leon & Co., O'Brien & Spotorno, Lemoine & Co., D. E. Allison & Co., and A. Fodera, of San Francisco; Haniman Fish Co., Morgan Oyster Co., San Pedro Fish Co., Standard Fish Co., Ferraris Bros., and Pacific Coast Fish Co., of Los Angeles.

We believe that the best interests of the people have been promoted in the matters by law intrusted to us during the last two years, and we trust that the work so well inaugurated will, under the revised laws



and increased appropriations which the Legislature should grant, be carried forward until our fishery industry is as productive as the possibilities warrant.

We desire to express the pleasure we have experienced in the confidence you have shown in us, as also in serving under your administration.

Yours respectfully,

WM. C. MURDOCH,

H. F. EMERIC,

Commissioners.

SAN FRANCISCO, September 1, 1896.





TAKING SPAWN.—TAYLOR CREEK—LAKE TAHOE.

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# APPENDIX

TO

## FOURTEENTH BIENNIAL REPORT

OF

BOARD OF FISH COMMISSIONERS,

FOR THE YEARS 1895 AND 1896.

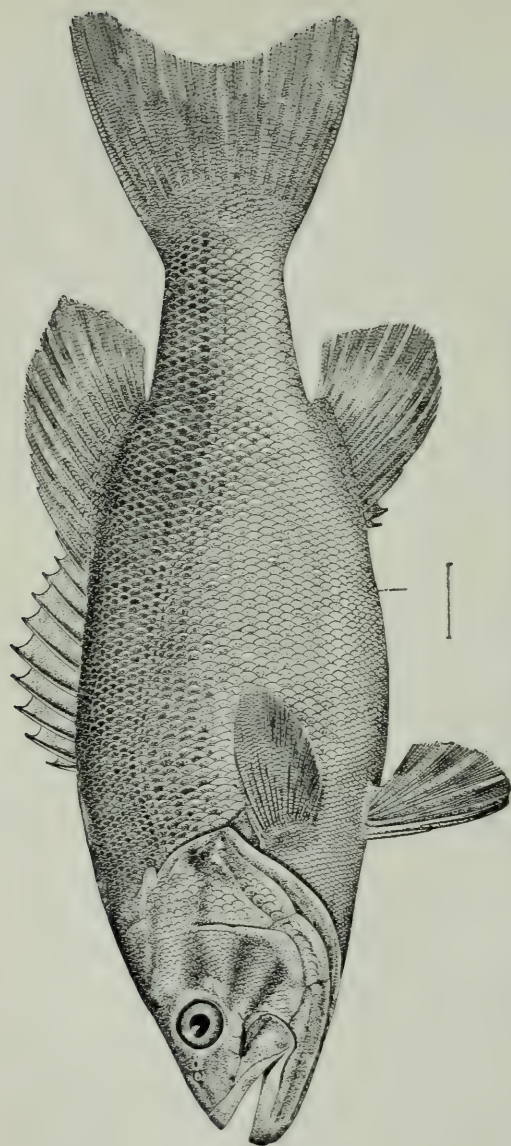
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## INDEX.

	PAGE.
1. Financial Statements.....	51-58
2. Statement of Fish Planted (a folder) .....	59
3. Statement of Licenses Issued .....	59
4. Fish Distribution .....	60-73
5. Spawning Tables.....	74-88
6. Game Statistics .....	89-98
7. Brief <i>in re</i> Truckee Lumber Company sawdust case .....	99-108





SMALL MOUTH BLACK BASS.—*Micropterus dolomieu*.

# FINANCIAL STATEMENTS.

## APPROPRIATION FOR RESTORATION AND PRESERVATION OF FISH IN THE WATERS OF THE STATE.

*Warrants Drawn during the Forty-sixth Fiscal Year, ending June 30, 1895.*

1894.			
July	1	Balance on hand.....	\$150 00
July	1	Amount appropriated.....	10,000 00
July	1	J. J. Deane, office rent, July.....	\$30 00
Aug.	1	J. P. Babcock, salary and expenses, July.....	140 60
Aug.	1	A. W. Wilson, salary and expenses, July.....	107 75
Aug.	1	A. G. Fletcher, salary and expenses, July.....	85 60
Aug.	1	W. R. McFarland, salary and expenses, July.....	191 00
Aug.	1	J. J. Deane, office rent, August.....	30 00
Sept.	1	C. F. Selvaige, salary and expenses, July.....	74 00
Sept.	1	J. P. Babcock, salary and expenses, August.....	195 30
Sept.	1	A. W. Wilson, salary and expenses, August.....	181 70
Sept.	1	W. R. McFarland, salary and expenses, August.....	188 65
Sept.	1	A. G. Fletcher, salary and expenses, August.....	143 10
Sept.	1	Holbrook, Merrill & Stetson, fish-shipping cans.....	120 00
Sept.	1	J. J. Deane, office rent, September.....	30 00
Sept.	1	W. P. Huestis, salary and expenses, August.....	103 75
Oct.	2	J. P. Babcock, salary and expenses, September.....	184 10
Oct.	2	A. W. Wilson, salary and expenses, September.....	165 75
Oct.	2	W. R. McFarland, salary and expenses, September.....	160 70
Oct.	2	A. G. Fletcher, salary and expenses, September.....	97 30
Oct.	2	J. J. Deane, office rent, October.....	30 00
Oct.	2	W. P. Huestis, salary and expenses, September.....	106 65
Oct.	2	F. P. Deering, salary, July.....	100 00
Oct.	2	F. P. Deering, salary, August.....	100 00
Oct.	2	F. P. Deering, salary, September.....	100 00
Oct.	2	J. P. Babcock, bill of N. P. C. Ry., water rent.....	35 00
Nov.	1	J. P. Babcock, salary and expenses, October.....	159 25
Nov.	1	Livingston Stone, hauling salmon eggs.....	111 77
Nov.	1	A. G. Fletcher, salary and expenses, October.....	124 60
Nov.	1	A. W. Wilson, salary and expenses, October.....	127 50
Nov.	1	W. R. McFarland, salary and expenses, October.....	121 55
Nov.	1	W. P. Huestis, salary and expenses, October.....	82 10
Nov.	1	F. P. Deering, salary, October.....	100 00
Nov.	15	J. J. Deane, office rent, November.....	30 00
Dec.	1	J. J. Deane, office rent, December.....	30 00
Dec.	1	J. P. Babcock, salary and expenses, November.....	193 75
Dec.	1	A. W. Wilson, salary and expenses, November.....	113 90
Dec.	1	W. R. McFarland, salary and expenses, November.....	102 00
Dec.	1	A. G. Fletcher, salary and expenses, November.....	142 35
Dec.	1	W. P. Huestis, salary and expenses, November.....	79 20
Dec.	31	J. P. Babcock, salary and expenses, December.....	193 75
Dec.	31	A. W. Wilson, salary and expenses, December.....	119 00
Dec.	31	W. R. McFarland, salary and expenses, December.....	113 25
Dec.	31	A. G. Fletcher, salary and expenses, December.....	104 30
Dec.	31	W. P. Huestis, salary and expenses, December.....	85 50
1895.			
Jan.	1	J. J. Deane, office rent, January.....	30 00
Feb.	1	J. P. Babcock, salary and expenses, January.....	172 15
Feb.	1	A. W. Wilson, salary and expenses, January.....	100 00
Feb.	1	W. R. McFarland, salary and expenses, January.....	126 35
Feb.	1	A. G. Fletcher, salary and expenses, January.....	93 85
Feb.	1	W. P. Huestis, salary and expenses, January.....	86 05
		Amount carried forward.....	\$5,443 12
			\$10,150 00



## RESTORATION AND PRESERVATION OF FISH—Continued.

1895.	Amount brought forward.....	\$5,443 12	\$10,150 00
Feb. 1	Livingston Stone, hauling salmon eggs.....	29 28	
Feb. 1	J. J. Deane, office rent, February.....	30 00	
Feb. 28	J. P. Babcock, salary and expenses, February.....	184 70	
Feb. 28	A. W. Wilson, salary and expenses, February.....	107 25	
Feb. 28	W. R. McFarland, salary and expenses, February.....	172 85	
Feb. 28	A. G. Fletcher, salary and expenses, February.....	103 30	
Feb. 28	W. P. Huestis, salary and expenses, February.....	88 80	
Mar. 1	L. C. Fraser, office rent, March.....	30 00	
Mar. 31	J. P. Babcock, salary and expenses, March.....	171 65	
Mar. 31	A. W. Wilson, salary and expenses, March.....	107 45	
Mar. 31	W. R. McFarland, salary and expenses, March.....	172 00	
Mar. 31	A. G. Fletcher, salary and expenses, March.....	129 45	
Mar. 31	W. P. Huestis, salary and expenses, March.....	68 95	
April 1	L. C. Fraser, office rent and janitor, April.....	35 00	
April 30	J. P. Babcock, salary and expenses, April.....	180 85	
April 30	A. W. Wilson, salary and expenses, April.....	132 90	
April 30	W. R. McFarland, salary and expenses, April.....	166 80	
April 30	A. G. Fletcher, salary and expenses, April.....	149 50	
April 30	W. P. Huestis, salary and expenses, April.....	87 50	
April 30	J. H. Davis, salary and expenses, April.....	175 25	
May 1	L. C. Fraser, office rent and janitor, May.....	35 00	
June 1	J. P. Babcock, salary and expenses, May.....	157 65	
June 1	A. W. Wilson, salary and expenses, May.....	169 10	
June 1	W. R. McFarland, salary and expenses, May.....	177 55	
June 1	A. G. Fletcher, salary and expenses, May.....	132 90	
June 1	J. H. Davis, salary and expenses, May.....	185 45	
June 1	W. P. Huestis, salary and expenses, May.....	74 75	
June 1	W. R. Stearns, salary and expenses, May.....	56 35	
June 1	L. C. Fraser, office rent and janitor, June.....	35 00	
June 30	J. P. Babcock, salary and expenses, June.....	170 90	
June 30	A. W. Wilson, salary and expenses, June.....	170 45	
June 30	W. R. McFarland, salary and expenses, June.....	152 25	
June 30	J. H. Davis, salary and expenses, June.....	187 00	
June 30	W. P. Huestis, salary and expenses, June.....	92 75	
June 30	W. R. Stearns, salary and expenses, June.....	121 10	
June 30	R. W. Requa, salary and expenses, June.....	61 00	
June 30	H. S. Crocker Co., office supplies.....	12 68	
June 30	Union Ice Co., ice.....	9 20	
June 30	Holbrook, Merrill & Stetson, fish-shipping cans, etc.....	298 25	
June 30	W. R. Stearns, bill N. P. C. Ry., water rent.....	38 00	
June 30	Southern Pacific R. R., hauling Fish Commission car No. 3 from Ogden.....	46 07	
	Totals.....	\$10,150 00	\$10,150 00

APPROPRIATION FOR RESTORATION AND PRESERVATION  
OF FISH AND GAME.*Warrants Drawn during Forty-seventh Fiscal Year, ending June 30, 1896.*

1895.	Amount appropriated.....		\$10,000 00
Aug. 1	J. P. Babcock, salary and expenses, July.....	\$154 30	
Aug. 1	A. W. Wilson, salary and expenses, July.....	142 25	
Aug. 1	J. H. Davis, salary and expenses, July.....	156 05	
Aug. 1	W. R. McFarland, salary and expenses, July.....	160 45	
Aug. 1	W. P. Huestis, salary and expenses, July.....	72 00	
Aug. 1	W. R. Stearns, salary and expenses, July.....	130 80	
Aug. 1	L. C. Fraser, office rent, July.....	35 00	
Aug. 1	L. C. Fraser, office rent, August.....	35 00	
Sept. 1	J. P. Babcock, salary and expenses, August.....	171 05	
Sept. 1	W. R. McFarland, salary and expenses, August.....	127 35	
Sept. 1	R. W. Requa, salary and expenses, July.....	188 70	
Sept. 1	R. W. Requa, salary and expenses, August.....	178 20	
Sept. 1	W. P. Huestis, salary and expenses, August.....	64 00	
Sept. 1	W. R. Stearns, salary and expenses, August.....	132 50	
	Amount carried forward.....	\$1,747 65	\$10,000 00

## RESTORATION AND PRESERVATION OF FISH AND GAME—Continued.

1895.	Amount brought forward.....	\$1,747 65	\$10,000 00
Sept. 1	A. W. Wilson, salary and expenses, August.....	141 45	
Sept. 1	J. H. Davis, salary and expenses, August.....	179 65	
Sept. 1	L. C. Fraser, office rent, September.....	35 00	
Sept. 1	Mary C. Rowson, launch "Hustler," August.....	110 00	
Oct. 1	J. P. Babcock, salary and expenses, September.....	161 70	
Oct. 1	A. G. Fletcher, salary and expenses, September.....	101 25	
Oct. 1	W. P. Huestis, salary and expenses, September.....	105 00	
Oct. 1	W. R. Stearns, salary and expenses, September.....	132 81	
Oct. 1	L. C. Fraser, office rent, October.....	35 00	
Oct. 1	Mary C. Rowson, launch "Hustler," September.....	300 00	
Oct. 1	J. H. Davis, salary and expenses, September.....	170 35	
Oct. 1	A. W. Wilson, salary and expenses, September.....	161 00	
Nov. 1	J. P. Babcock, salary and expenses, October.....	250 00	
Nov. 1	A. W. Wilson, salary and expenses, October.....	174 70	
Nov. 1	J. H. Davis, salary and expenses, October.....	75 00	
Nov. 1	W. R. McFarland, salary and expenses, October.....	73 85	
Nov. 1	A. G. Fletcher, salary and expenses, October.....	96 05	
Nov. 1	W. P. Huestis, salary and expenses, October.....	117 95	
Nov. 1	W. R. Stearns, salary and expenses, October.....	137 20	
Nov. 1	L. C. Fraser, office rent, November.....	35 00	
Nov. 1	Mary C. Rowson, launch "Hustler," October.....	40 00	
Nov. 1	Livingston Stone, hauling salmon eggs.....	151 90	
Nov. 1	H. S. Crocker Co., office supplies.....	8 18	
Dec. 1	J. P. Babcock, salary and expenses, November.....	194 60	
Dec. 1	A. G. Fletcher, salary and expenses, November.....	102 15	
Dec. 1	W. R. McFarland, salary and expenses, November.....	206 15	
Dec. 1	J. H. Davis, salary and expenses, November.....	128 70	
Dec. 1	W. P. Huestis, salary and expenses, November.....	92 10	
Dec. 1	W. R. Stearns, salary and expenses, November.....	111 20	
Dec. 1	L. C. Fraser, office rent, December.....	35 00	
Dec. 1	Pacific T. & T. Co., rent of telephone, November.....	8 55	
Dec. 31	W. R. McFarland, salary and expenses, December.....	54 45	
Dec. 31	J. P. Babcock, salary and expenses, December.....	131 05	
Dec. 31	W. R. McFarland, salary and expenses, December.....	33 21	
Dec. 31	A. W. Wilson, salary and expenses, December.....	106 50	
Dec. 31	W. P. Huestis, salary and expenses, December.....	89 25	
Dec. 31	J. H. Davis, salary and expenses, December.....	107 50	
Dec. 31	W. R. Stearns, salary and expenses, December.....	150 65	
Dec. 31	A. G. Fletcher, salary and expenses, December.....	35 40	
Dec. 31	R. Helms, Game Warden, expenses.....	35 00	
1896.			
Jan. 1	L. C. Fraser, office rent, January.....	35 00	
Feb. 1	A. G. Fletcher, salary and expenses, January.....	110 20	
Feb. 1	J. H. Davis, salary and expenses, January.....	138 50	
Feb. 1	A. W. Wilson, salary and expenses, January.....	146 50	
Feb. 1	W. P. Huestis, salary and expenses, January.....	90 50	
Feb. 1	W. R. Stearns, salary and expenses, January.....	133 00	
Feb. 1	J. P. Babcock, salary and expenses, January.....	148 35	
Feb. 1	Mary C. Rowson, launch "Hustler," January.....	80 00	
Feb. 1	L. C. Fraser, office rent, February.....	35 00	
Mar. 1	J. H. Davis, salary and expenses, February.....	139 35	
Mar. 1	A. G. Fletcher, salary and expenses, February.....	110 85	
Mar. 1	A. W. Wilson, salary and expenses, February.....	121 45	
Mar. 1	W. R. Stearns, salary and expenses, February.....	135 95	
Mar. 1	W. P. Huestis, salary and expenses, February.....	63 20	
Mar. 1	Mary C. Rowson, launch "Hustler," February.....	40 00	
Mar. 1	L. C. Fraser, office rent, March.....	35 00	
April 1	A. W. Wilson, salary and expenses, March.....	146 55	
April 1	A. G. Fletcher, salary and expenses, March.....	148 80	
April 1	J. H. Davis, salary and expenses, March.....	141 05	
April 1	W. R. Stearns, salary and expenses, March.....	144 65	
April 1	M. L. Cross, salary and expenses, March.....	146 20	
April 1	S. Rhodes, salary and expenses, March.....	71 00	
April 1	Mary C. Rowson, launch "Hustler," March.....	30 00	
April 1	L. C. Fraser, office rent, April.....	35 00	
May 1	J. P. Babcock, salary and expenses, April.....	176 15	
May 1	A. G. Fletcher, salary and expenses, April.....	117 30	
May 1	A. W. Wilson, salary and expenses, April.....	282 85	
May 1	W. R. Stearns, salary and expenses, April.....	67 35	
May 1	M. L. Cross, salary and expenses, April.....	134 50	
	Amount carried forward.....	\$9,416 40	\$10,000 00

## RESTORATION AND PRESERVATION OF FISH AND GAME—Continued.

1896.	Amount brought forward.....	\$9,416 40	\$10,000 00
May 1	S. Rhodes, salary and expenses, April.....	50 75	
May 1	L. C. Fraser, office rent, May.....	35 00	
June 1	J. P. Babcock, salary and expenses, May.....	152 20	
June 1	A. W. Wilson, salary and expenses, May.....	177 00	
June 1	A. G. Fletcher, salary and expenses, May.....	51 50	
June 1	W. R. Stearns, salary and expenses, May.....	82 15	
June 1	B. P. Oliver, office rent, June.....	35 00	
	Totals.....	\$10,000 00	\$10,000 00

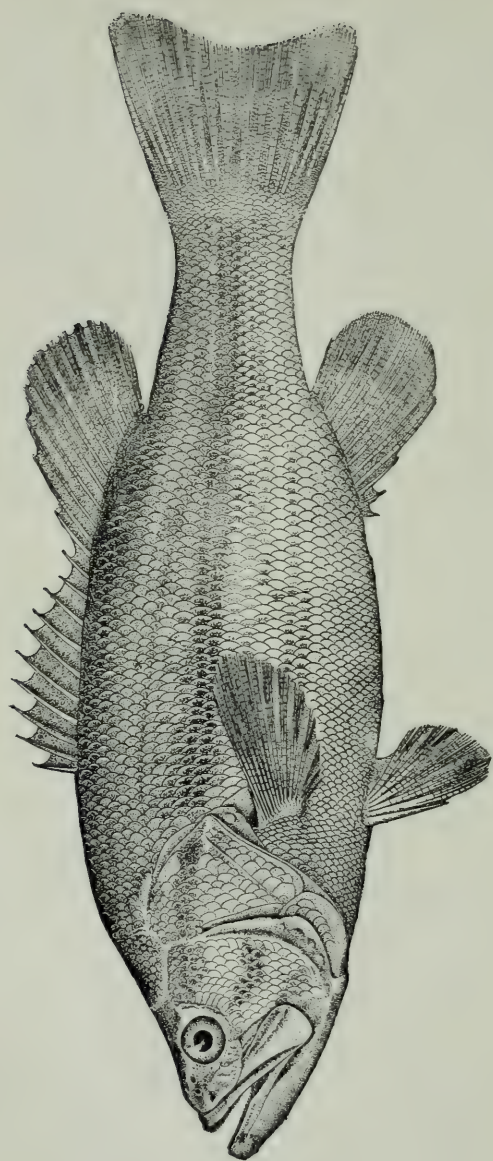
APPROPRIATION FOR SUPPORT AND MAINTENANCE OF  
THE STATE HATCHERIES.

Warrants Drawn during the Forty-sixth Fiscal Year, ending June 30, 1895.

1894.	Amount appropriated.....		\$7,500 00
July 1	W. H. Shebley, salary and expenses, July.....	\$111 50	
Aug. 1	T. E. Sullivan, salary and expenses, July.....	60 00	
Aug. 1	Frank Shebley, salary and expenses, July.....	50 00	
Aug. 1	E. W. Hunt, salary and expenses, July.....	194 00	
Aug. 1	F. C. Boyce, salary and expenses, July.....	70 00	
Aug. 10	Scott & Klink, rent of Klink's Lake, and labor.....	64 00	
Sept. 1	E. W. Hunt, salary and expenses, August.....	147 75	
Sept. 1	F. C. Boyce, salary and expenses, August.....	70 00	
Sept. 1	W. D. Sisson, hauling, July and August.....	87 25	
Sept. 1	Alexander Albee, feed for fry, Sisson.....	30 95	
Sept. 1	W. H. Shebley, salary and expenses, August.....	207 52	
Sept. 1	T. E. Sullivan, salary and expenses, August.....	113 35	
Sept. 1	Frank Shebley, salary and expenses, August.....	99 39	
Oct. 2	E. W. Hunt, salary and expenses, September.....	250 20	
Oct. 2	F. C. Boyce, salary and expenses, September.....	70 00	
Oct. 2	W. H. Shebley, salary and expenses, September.....	153 60	
Oct. 2	Frank Shebley, salary and expenses, September.....	118 54	
Oct. 2	T. E. Sullivan, salary and expenses, September.....	93 75	
Oct. 2	A. G. Fletcher, bill of A. Green for painting roof of Bear Valley Hatchery.....	15 00	
Oct. 2	W. P. Fuller & Co., paints and oils.....	21 00	
Oct. 2	L. J. Griffin, carpenter labor, Sisson.....	84 25	
Oct. 2	McKay & Stewart, lumber for Tahoe Hatchery.....	89 10	
Oct. 20	J. H. Sharpe, rent of land, Tahoe, to July 1, 1895.....	50 00	
Nov. 1	W. H. Shebley, salary and expenses, October.....	190 40	
Nov. 1	T. E. Sullivan, salary and expenses, October.....	66 25	
Nov. 1	Frank Shebley, salary and expenses, October.....	56 50	
Nov. 1	E. W. Hunt, salary and expenses, October.....	113 80	
Nov. 1	F. C. Boyce, salary and expenses, October.....	32 00	
Nov. 1	Henry D. Curran, labor, Sisson Hatchery.....	56 50	
Nov. 1	W. D. Sisson, hauling, September and October.....	59 50	
Dec. 1	E. W. Hunt, salary and expenses, November.....	26 55	
Dec. 1	W. H. Shebley, salary and expenses, November.....	169 75	
Dec. 1	T. E. Sullivan, salary and expenses, November.....	60 00	
Dec. 1	Frank Shebley, salary and expenses, November.....	50 00	
Dec. 1	W. D. Sisson, hauling, November.....	23 00	
Dec. 31	W. H. Shebley, salary and expenses, December.....	177 73	
Dec. 31	T. E. Sullivan, salary and expenses, December.....	60 00	
Dec. 31	Frank Shebley, salary and expenses, December.....	50 00	
1895.			
Feb. 1	W. H. Shebley, salary and expenses, January.....	177 45	
Feb. 1	Frank Shebley, salary and expenses, January.....	50 00	
Feb. 1	T. E. Sullivan, salary and expenses, January.....	60 00	
Feb. 1	E. W. Hunt, salary and expenses, January.....	55 15	
Feb. 1	Mrs. L. M. Sisson, rent of lake to November 15, 1895.....	50 00	
Feb. 1	Neville & Co., supplies.....	17 38	
Feb. 1	W. D. Sisson, hauling, December and January.....	56 75	
	Amount carried forward.....	\$3,909 86	\$7,500 00







LARGE MOUTH BLACK BASS.—*Micropterus salmoides*.

## SUPPORT AND MAINTENANCE OF STATE HATCHERIES--Continued.

1895.	Amount brought forward .....	\$3,909 86	\$7,500 00
Mar. 1	W. H. Shebley, salary and expenses, February .....	205 67	
Mar. 1	E. W. Hunt, salary and expenses, February .....	137 00	
Mar. 1	T. E. Sullivan, salary and expenses, February .....	90 50	
Mar. 1	Frank Shebley, salary and expenses, February .....	55 50	
Mar. 31	W. H. Shebley, salary and expenses, March .....	182 13	
Mar. 31	T. E. Sullivan, salary and expenses, March .....	91 50	
Mar. 31	Frank Shebley, salary and expenses, March .....	99 25	
Mar. 31	E. W. Hunt, salary and expenses, March .....	195 75	
Mar. 31	W. D. Sisson, salary and expenses, March .....	25 83	
Mar. 31	W. D. Sisson, hauling, February and March .....	26 25	
April 9	J. Caire, supplies .....	52 33	
April 30	W. H. Shebley, salary and expenses, April .....	180 87	
April 30	T. E. Sullivan, salary and expenses, April .....	96 25	
April 30	W. D. Sisson, salary and expenses, April .....	124 00	
April 30	E. W. Hunt, salary and expenses, April .....	309 73	
April 30	Frank Shebley, salary and expenses, April .....	70 00	
April 30	Henry D. Curran, hauling and supplies .....	18 75	
April 30	D. L. Oliver, labor March and April .....	42 00	
May 31	W. H. Shebley, salary and expenses, May .....	178 52	
May 31	T. E. Sullivan, salary and expenses, May .....	134 77	
May 31	E. W. Hunt, salary and expenses, May .....	293 63	
May 31	Frank Shebley, salary and expenses, May .....	70 00	
May 31	L. J. Griffin, labor, January, February, March, and May .....	66 50	
May 31	A. P. Smiley, salary and expenses .....	86 50	
May 31	W. Montgomery, labor, April and May .....	51 00	
June 30	W. H. Shebley, salary and expenses, June .....	231 85	
June 30	T. E. Sullivan, salary and expenses, June .....	60 00	
June 30	E. W. Hunt, salary and expenses, June .....	148 36	
June 30	Frank Shebley, salary and expenses, June .....	70 00	
June 30	A. G. Fletcher, salary and expenses, June .....	82 60	
June 30	J. Eastman, labor, June .....	14 00	
June 30	W. P. Fuller & Co., supplies .....	10 85	
June 30	W. Montgomery, labor, June .....	14 00	
June 30	W. D. Sisson, hauling, May and June .....	74 25	
	Totals .....	\$7,500 00	\$7,500 00

APPROPRIATION FOR SUPPORT AND MAINTENANCE OF  
STATE HATCHERIES.*Warrants Drawn during Forty-seventh Fiscal Year, ending June 30, 1896.*

1895.	Amount appropriated .....		\$7,500 00
July 1	W. H. Shebley, salary and expenses, July .....	\$179 58	
Aug. 1	F. A. Shebley, salary and expenses, July .....	70 00	
Aug. 1	E. W. Hunt, salary and expenses, July .....	169 45	
Aug. 1	A. G. Fletcher, salary and expenses, July .....	104 65	
Aug. 1	R. R. Hillman, salary and expenses, July .....	51 50	
Sept. 1	R. R. Hillman, salary and expenses, August .....	50 00	
Sept. 1	E. W. Hunt, salary and expenses, August .....	163 84	
Sept. 1	F. A. Shebley, salary and expenses, August .....	93 00	
Sept. 1	W. H. Shebley, salary and expenses, August .....	114 55	
Sept. 1	A. G. Fletcher, salary and expenses, August .....	84 10	
Sept. 1	J. H. Eastman, salary and expenses, August .....	31 00	
Sept. 1	Scott & Klink, rent of Klink's Lake .....	50 00	
Oct. 1	W. H. Shebley, salary and expenses, September .....	143 75	
Oct. 1	F. A. Shebley, salary and expenses, September .....	77 69	
Oct. 1	R. W. Requa, salary and expenses, September .....	132 65	
Oct. 1	E. W. Hunt, salary and expenses, September .....	114 00	
Oct. 1	J. H. Eastman, salary and expenses, September .....	30 00	
Oct. 1	L. J. Griffin, labor, Sisson .....	58 50	
Oct. 1	J. H. Sharpe, rent of land, Tahoe, July 1 to Sept. 1, 1895 .....	8 35	
Oct. 1	J. H. Sharpe, rent of land, Tahoe, to September 1, 1896 .....	50 00	
	Amount carried forward .....	\$1,776 61	\$7,500 00

## SUPPORT AND MAINTENANCE OF STATE HATCHERIES—Continued.

1895.		Amount brought forward.....	\$1,776 61	\$7,500 00
Nov. 1		R. W. Requa, salary and expenses, October.....	105 50	
Nov. 1		F. A. Shebley, salary and expenses, October.....	85 60	
Nov. 1		J. H. Eastman, salary and expenses, October.....	30 00	
Nov. 1		W. D. Sisson, hauling and ice, July, Aug., and Sept. ....	138 50	
Nov. 1		L. J. Bruner, labor, July.....	40 00	
Nov. 1		Holbrook, Merrill & Stetson, supplies.....	13 75	
Nov. 1		W. P. Fuller & Co., supplies.....	36 65	
Dec. 1		R. W. Requa, salary and expenses, November.....	101 50	
Dec. 1		W. D. Sisson, hauling, October and November, and rent of lake to November 15, 1896.....	121 00	
Dec. 1		L. J. Griffin, labor.....	36 25	
Dec. 1		J. H. Eastman, salary and expenses, November.....	30 00	
Dec. 31		E. W. Hunt, salary and expenses, December.....	51 58	
Dec. 31		W. H. Shebley, salary and expenses, December.....	127 50	
Dec. 31		F. A. Shebley, salary and expenses, December.....	74 70	
Dec. 31		R. W. Requa, salary and expenses, December.....	102 50	
Dec. 31		J. H. Eastman, salary and expenses, December.....	30 00	
1896.				
Feb. 1		E. W. Hunt, salary and expenses, January.....	180 35	
Feb. 1		F. A. Shebley, salary and expenses, January.....	70 50	
Feb. 1		W. H. Shebley, salary and expenses, January.....	186 28	
Feb. 1		R. W. Requa, salary and expenses, January.....	100 50	
Feb. 1		J. H. Eastman, salary and expenses, January.....	30 50	
Feb. 1		J. Caire, supplies.....	80 70	
Feb. 1		W. D. Sisson, hauling, December and January.....	62 75	
Feb. 1		J. P. Babcock, bill of J. Annin, Jr., for Brown Trout eggs.....	135 00	
Mar. 1		J. P. Babcock, salary and expenses, February.....	169 70	
Mar. 1		W. H. Shebley, salary and expenses, February.....	258 62	
Mar. 1		F. A. Shebley, salary and expenses, February.....	70 50	
Mar. 1		R. W. Requa, salary and expenses, February.....	100 50	
Mar. 1		E. W. Hunt, salary and expenses, February.....	135 85	
Mar. 1		S. Rhodes, salary and expenses, February.....	38 00	
Mar. 1		J. H. Eastman, salary and expenses, February.....	13 00	
Mar. 1		L. J. Griffin, contract price paid for work on new lake.....	550 00	
April 1		J. P. Babcock, bill of hatchery supplies.....	98 71	
April 1		J. P. Babcock, salary and expenses, March.....	179 00	
April 1		W. H. Shebley, salary and expenses, March.....	132 35	
April 1		R. W. Requa, salary and expenses, March.....	140 20	
April 1		E. W. Hunt, salary and expenses, March.....	224 14	
April 1		F. A. Shebley, salary and expenses, March.....	79 50	
April 1		E. B. Nelson, salary and expenses, March.....	35 50	
May 1		W. H. Shebley, salary and expenses, April.....	184 62	
May 1		R. W. Requa, salary and expenses, April.....	111 40	
May 1		W. D. Sisson, salary and expenses, April.....	115 25	
May 1		J. H. Eastman, salary and expenses, April.....	30 00	
May 1		E. W. Hunt, salary and expenses, April.....	323 08	
May 1		F. A. Shebley, salary and expenses, April.....	70 00	
May 1		E. B. Nelson, salary and expenses, April.....	60 00	
June 1		W. H. Shebley, salary and expenses, May.....	103 76	
June 1		E. W. Hunt, salary and expenses, May.....	353 40	
June 1		R. W. Requa, salary and expenses, May.....	81 00	
June 1		F. A. Shebley, salary and expenses, May.....	70 00	
June 1		J. H. Eastman, salary and expenses, May.....	24 00	
		Totals.....	\$7,500 00	\$7,500 00

## FISH COMMISSION FUND.

*Warrants Drawn during the Forty-sixth Fiscal Year, ending June 30, 1895.*

1894.				
July 1	1	Balance on hand .....		\$1,379 24
July 1	1	Receipts into fund .....		5,225 92
July 1	1	J. P. Babcock, salary and expenses, June .....	\$177 85	
July 1	1	W. R. McFarland, salary and expenses, June .....	148 55	
July 1	1	A. G. Fletcher, salary and expenses, June .....	84 54	
July 1	1	Morrill Bros., 70,000 eyed trout ova .....	122 50	
July 1	1	A. W. Wilson, salary and expenses, June .....	110 95	
July 1	1	Mary C. Rowson, launch "Hustler," June .....	30 00	
July 10	1	J. A. Richardson, salary and expenses, April .....	122 75	
July 10	1	J. C. Irvine, patrolman's badges .....	16 25	
July 10	1	S. Crocker, salary and expenses, May .....	103 50	
July 10	1	C. F. Selvage, salary and expenses, June .....	120 25	
July 10	1	J. Caire, supplies, Sisson .....	7 75	
July 10	1	E. W. Hunt, salary and expenses, June .....	236 91	
July 10	1	F. C. Boyce, salary and expenses, June .....	70 00	
July 10	1	W. H. Shebley, salary and expenses, June .....	125 13	
July 10	1	T. E. Sullivan, salary and expenses, June .....	96 70	
July 10	1	Frank Shebley, salary and expenses, June .....	59 00	
July 10	1	W. D. Sisson, hauling, etc., June .....	27 50	
July 15	1	H. L. Macneil, expenses, April .....	29 40	
July 15	1	H. L. Macneil, expenses, June .....	23 50	
Aug. 1	1	J. D. Redding, expenses .....	227 05	
Aug. 1	1	W. C. Murdoch, expenses .....	113 10	
Aug. 1	1	Neville & Co., flag for Sisson .....	6 00	
Sept. 1	1	J. D. Hollingsworth, expenses .....	22 50	
Sept. 1	1	Sisson Mill and Lumber Co., lumber and supplies .....	52 00	
Sept. 1	1	Henry Rowson, launch "Hustler," August .....	70 00	
Oct. 2	2	S. Kaufman, stenographic and typewriter services .....	183 00	
Oct. 2	2	C. H. Rice, excess amount paid State in case of D. Johns, Collinsville .....	8 10	
Oct. 2	2	Mary C. Rowson, launch "Hustler," September .....	300 00	
Oct. 2	2	Union Ice Co., ice .....	20 30	
Oct. 2	2	M. C. Allen, services revising report .....	50 00	
Oct. 2	2	F. P. Deering, salary, February .....	100 00	
Oct. 2	2	F. P. Deering, salary, March .....	100 00	
Oct. 2	2	F. P. Deering, salary, April .....	100 00	
Oct. 2	2	F. P. Deering, salary, May .....	100 00	
Oct. 2	2	F. P. Deering, salary, June .....	100 00	
Oct. 20	20	H. L. Macneil, expenses .....	45 00	
Oct. 20	20	J. D. Redding, expenses .....	88 25	
Nov. 1	1	Overland Monthly Pub. Co., electrotypes and printing .....	100 14	
Nov. 1	1	J. C. Irvine, badges and stamp .....	16 75	
Dec. 31	31	E. D. Stewart, Kinney's ice bill, July, 1893 .....	4 50	
Dec. 31	31	H. S. Crocker Co., stationery and printing .....	12 55	
1895.				
Feb. 1	1	Mary C. Rowson, launch "Hustler," January .....	50 00	
Feb. 1	1	J. H. Davis, salary and expenses, January .....	68 50	
Mar. 1	1	J. H. Davis, salary and expenses, February .....	136 25	
Mar. 31	31	J. H. Davis, salary and expenses, March .....	166 25	
Mar. 31	31	J. P. Babcock, expense securing evidence .....	7 50	
Mar. 31	31	Mary C. Rowson, launch "Hustler," March .....	30 00	
Mar. 31	31	H. C. Chipman, painting license tags .....	117 00	
April 2	2	J. C. Irvine, badges and stamps .....	29 45	
April 30	30	J. H. Lowe, labor, January and April .....	15 50	
April 30	30	H. S. Crocker Co., stationery and supplies .....	24 75	
April 30	30	Mary C. Rowson, launch "Hustler," April .....	290 00	
April 30	30	E. T. Allen Co., supplies .....	14 50	
May 31	31	H. F. Emeric, expenses .....	79 00	
May 31	31	W. C. Murdoch, expenses .....	79 00	
May 31	31	Mary C. Rowson, launch "Hustler," May .....	70 00	
May 31	31	J. C. Irvine, badges .....	22 75	
June 30	30	Balance on hand .....	1,867 44	
		Totals .....	\$6,605 16	\$6,605 16



## FISH COMMISSION FUND.

*Warrants Drawn during Forty-seventh Fiscal Year, ending June 30, 1896.*

1895.			
July	1	Balance on hand.....	\$1,867 44
July	1	Receipts into fund.....	5,671 90
July	1	E. W. Hunt, salary and expenses, July.....	\$75 54
July	1	J. Caire, supplies.....	44 00
Aug.	1	H. F. Emeric, expenses.....	93 00
Aug.	1	W. C. Murdoch, expenses.....	95 80
Aug.	1	Southern Pacific R. R., transportation of U. S. car No. 3 from Ogden.....	188 53
Sept.	1	H. F. Emeric, expenses.....	30 60
Sept.	1	R. H. Bierce, contract, Battle Creek Hatchery.....	300 00
Oct.	1	W. H. Shebley, salary and expenses, September.....	194 17
Oct.	1	R. H. Bierce, contract, Battle Creek Hatchery.....	400 00
Oct.	1	J. P. Babcock, supplies, Battle Creek.....	44 70
Oct.	1	R. H. Bierce, contract and supplies.....	569 40
Nov.	1	H. F. Emeric, expenses.....	20 30
Nov.	1	W. C. Murdoch, expenses.....	17 30
Nov.	1	J. Caire, supplies.....	157 30
Nov.	1	Neville & Co., supplies.....	88 73
Nov.	1	E. W. Hunt, labor and supplies, October.....	455 40
Nov.	1	W. H. Shebley, salary and expenses, October.....	140 28
Nov.	1	E. W. Hunt, salary and expenses, October.....	148 95
Nov.	1	E. W. Hunt, operating expenses, Battle Creek.....	290 03
Dec.	1	E. W. Hunt, salary and expenses, November.....	121 80
Dec.	1	E. W. Hunt, labor, material, etc.....	536 85
Dec.	1	W. H. Shebley, salary and expenses, November.....	128 65
Dec.	1	F. A. Shebley, salary and expenses, November.....	116 57
Dec.	1	L. A. Sheldon, lumber.....	138 02
1896.			
Jan.	1	J. M. Morrison, expenses.....	1 45
Jan.	1	E. W. Hunt, salary and expenses, December.....	197 34
May	1	J. H. Davis, salary and expenses, April.....	160 70
May	1	W. J. Davis, salary and expenses, April.....	158 00
May	1	Mary C. Rowson, Launch "Hustler," April.....	290 00
May	1	H. C. Chipman, painting license tags.....	108 00
May	1	H. F. Emeric, expenses.....	37 70
May	1	W. C. Murdoch, expenses.....	35 70
June	1	W. H. Shebley, expenses, May.....	24 33
June	1	E. B. Nelson, salary and expenses, May.....	60 00
June	1	M. L. Cross, salary and expenses, May.....	57 95
June	1	A. G. Fletcher, salary and expenses, May.....	92 65
June	1	J. H. Davis, salary and expenses, May.....	166 75
June	1	W. J. Davis, salary and expenses, May.....	88 40
June	30	Balance on hand.....	1,664 45
		Totals.....	\$7,539 34
			\$7,539 34



# STATEMENT OF FISH PLANTED

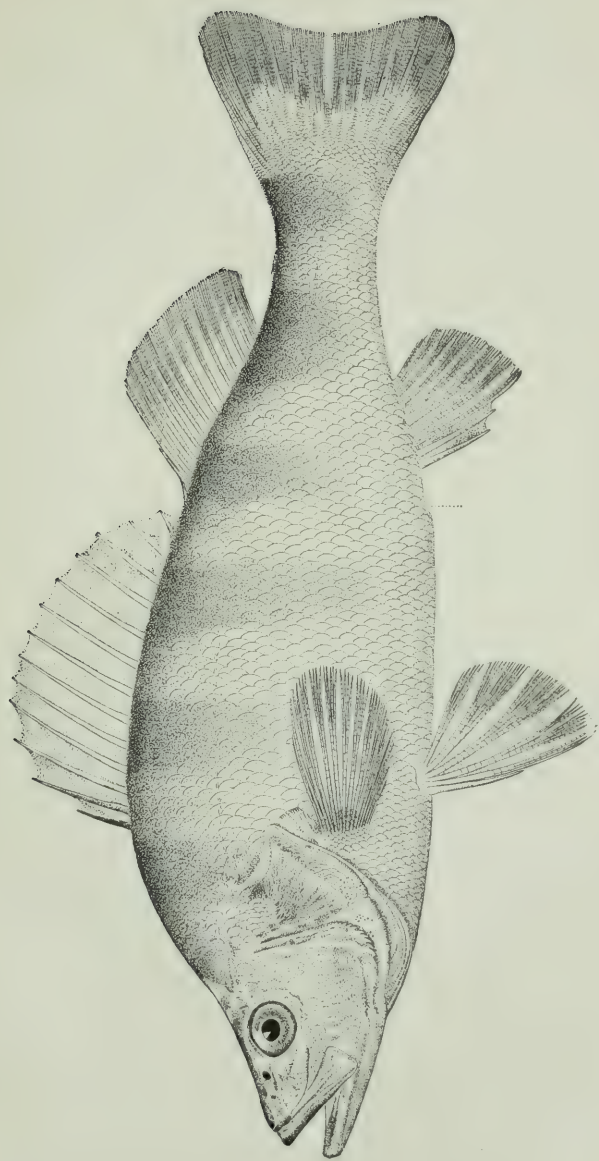
BY THE

BOARD OF FISH COMMISSIONERS OF THE STATE OF CALIFORNIA SINCE THE ORGANIZATION OF THE COMMISSION.

Year.	Chinook Salmon ( <i>Oncorhynchus tshawytscha</i> )	Eastern Salmon ( <i>Salmo gairdneri</i> )	Landlocked Salmon ( <i>Salmo salar salar</i> )	Rainbow Trout ( <i>Salmo trutta</i> )	Trout.				Dolly Varden ( <i>Salvelinus malinche</i> )	Loch Laven ( <i>Salmo trutta trutta</i> )	Mackinaw ( <i>Salvelinus namaycush</i> )	German Brown ( <i>Salmo fario</i> )	Shad ( <i>Alosa sapidissima</i> )	Whitefish ( <i>Coregonus clupeaformis</i> )	Striped Bass ( <i>Morone chrysops</i> )	Carp ( <i>Cyprinus carpio</i> )	Crutch ( <i>Cheturus melanotus</i> )	Smallmouth Black Bass ( <i>Micropterus dolomieu</i> )	Largemouth Black Bass ( <i>Micropterus salmoides</i> )	Pike ( <i>Esox lucius</i> )	Yellow Perch ( <i>Perca flavescens</i> )	Green Sunfish ( <i>Lepomis cyanellus</i> )	Golden Shiner ( <i>Notemigonus crysoleucas</i> )	Chesapeake Bay Shiner ( <i>Notropis atherinoides</i> )	Eastern Lobster ( <i>Homarus americanus</i> )	Silver Pout ( <i>Paralichthys oblongus</i> )	Mudhopper ( <i>Lutjanus mixtus</i> )	Totals.
					Western Brook Trout ( <i>Salvelinus fontinalis</i> )	Cutthroat Salmon ( <i>Salmo clarki</i> )	Atlantic Salmon ( <i>Salmo salar atlanticus</i> )	Atlantic Salmon ( <i>Salmo salar atlanticus</i> )																				
1871													15,000															15,000
1872													85,000	*25,000														53,000
1873													85,000															85,000
1874	850,000	305															144		85								12	850,350
1875	2,000,000													*20,000														2,080,000
1876	2,000,000																											2,080,000
1877	2,200,000			45,000										*300,000			8,400	88										2,796,488
1878	2,500,000	*50,000		33,500																								2,768,500
1879	2,300,000			61,200	50,000									*565,000	150			22										3,019,330
1880	2,225,000			32,000																								2,548,800
1881	2,420,500	*20,100		23,600									240,000	*230,500			298-12											2,917,362
1882	1,680,000												220,000															1,680,331
1883	900,000			95,000										*500,000														230,500
1884		*25,000		214,000																								1,300,000
1885				150,000																								150,000
1886	1,200,000			100,000																								1,300,000
1887	200,000			2,000,000																								2,700,000
1888	1,230,000			50,000																								1,941,333
1889	2,168,000				1,027,000																							3,153,800
1890	1,320,000			995,000	873,000	*8,500																						3,474,655
1891	2,798,250				88,000																							2,860,250
1892	2,651,000			505,500																								3,474,655
1893	2,554,450			754,000	105,000																							3,784,015
1894	7,776,400			1,080,240	2,983,950																							12,115,940
1895	3,435,000			248,500	3,803,000																							7,776,400
1896	15,283,183	*250		434,000	3,968,650		5,000	*814	*65,000	*105,000	834,000	1,640,500	450	61,256	769	32,870	1,991	27	454	116	253	16	357	4,022	93,000		84,367,970	
Totals	59,451,783	305	95,350	6,823,540	13,722,600	1,425,000	7,000	2,011	65,300	105,000	834,000	1,640,500	450	61,256	769	32,870	1,991	27	454	116	253	16	357	4,022	93,000		84,367,970	

Italics show fish and eggs that were brought from without the State. \* Eggs were hatched by Commission. † Eggs were taken by this Commission in Nevada and hatched at our hatcheries.

1,988,000 eggs and shiners sent out of State. \$1,141,000 eggs sent out of State.



YELLOW PERCH.—*Perca flavescens*.





## STATEMENT OF LICENSES ISSUED.

## AMOUNT RECEIVED FROM LICENSES FOR THE YEAR ENDING APRIL 1, 1895.

Class.	Received of Controller.	Value of Each.	On Hand April 1, 1895.	Sold During the Year.	Total Value of Licenses Sold.	Commissions Paid for Collecting.	Net Amount Paid the State.
A -----	800	\$5 00	156	644	\$3,220 00	\$3 00	\$3,217 00
B -----	50	7 50	17	33	247 50	-----	247 50
C -----	50	10 00	24	26	260 00	-----	260 00
D -----	50	12 50	29	21	262 50	-----	262 50
E -----	25	-----	19	6	82 50	-----	82 50
Totals --	975	-----	245	730	\$4,072 50	\$3 00	\$4,069 50

## AMOUNT RECEIVED FROM STURGEON LICENSES FOR THE YEAR ENDING SEPTEMBER 1, 1895.

Received of Controller.	Value of Each.	Number Sold.	Amount Collected.	Net Amount Paid the State.
100	\$10 00	74	\$740 00	\$740 00

## AMOUNT RECEIVED FROM LICENSES FOR THE YEAR ENDING APRIL 1, 1896.

Class.	Received of Controller.	Value of Each.	On Hand April 1, 1896.	Sold During the Year.	Total Value of Licenses Sold.	Commissions Paid for Collecting.	Net Amount Paid the State.
A -----	800	\$5 00	137	663	\$3,315 00	-----	\$3,315 00
B -----	50	7 50	42	8	60 00	-----	60 00
C -----	50	10 00	30	20	200 00	-----	200 00
D -----	50	12 50	24	26	325 00	-----	325 00
E -----	25	-----	22	3	47 50	-----	47 50
Totals...	975	-----	255	720	\$3,947 50	-----	\$3,947 50

## FISH DISTRIBUTION.

DISTRIBUTION OF THE SUMMER AND FALL TAKE OF SALMON (*Onchorhynchus chonicha*)—1894.

Date.	Distribution.	Number of Fish.
1894.		
Oct. 9	Sullaway Creek .....	180,000
1895.		
Jan. 3	Cold Creek .....	120,000
Jan. 4	Wagon Valley Creek .....	100,000
Jan. 5	Sullaway Creek .....	200,000
Jan. 6	Cold Creek .....	100,000
Jan. 7	Big Spring Creek .....	100,000
Jan. 7	Sullaway Creek .....	100,000
Jan. 8	Cold Creek .....	100,000
Jan. 9	Cold Creek .....	100,000
Jan. 9	Sullaway Creek .....	100,000
Jan. 10	Wagon Valley Creek .....	100,000
Jan. 10	Sullaway Creek .....	100,000
Jan. 10	School-House Spring Creek .....	100,000
Jan. 15	Cold Creek .....	100,000
Jan. 16	Sullaway Creek .....	100,000
Jan. 17	Big Spring Creek .....	100,000
Jan. 18	Big Spring Creek .....	200,000
Jan. 19	Big Spring Creek .....	100,000
Jan. 25	Cold Creek .....	100,000
Feb. 17	Big Spring Creek .....	100,000
Mar. 12	Sacramento River .....	200,000
Mar. 13	Cold Creek .....	100,000
Mar. 13	Sullaway Creek .....	100,000
Mar. 14	Sacramento River .....	250,000
Mar. 14	Big Spring Creek .....	200,000
May 5	Castle Creek .....	180,000
May 20	Sacramento River .....	105,000
	Total .....	3,435,000

DISTRIBUTION OF THE SUMMER TAKE OF SALMON (*Onchorhynchus chowicha*)  
FROM THE UNITED STATES STATION AT BAIRD—1895. (HATCHED AT  
SISSON HATCHERY.)

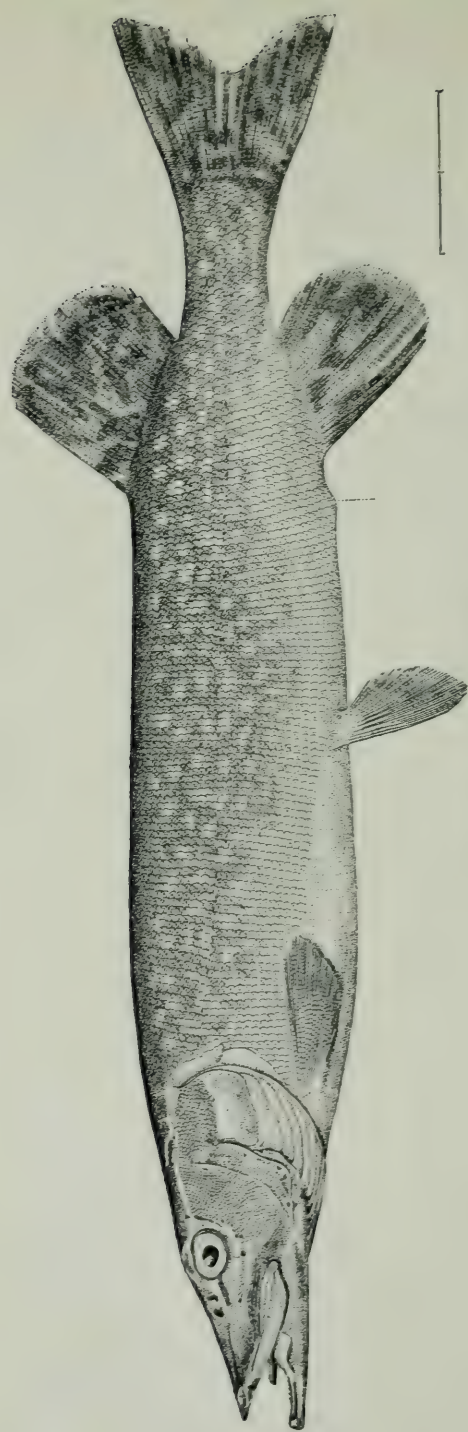
Date.	Distribution.	Number of Fish.
1894.		
Nov. 14	Sullaway Creek .....	200,000
Nov. 14	Big Spring Creek .....	200,000
Nov. 14	Sullaway Creek, near Klink's .....	175,000
Nov. 14	Cold Creek .....	200,000
Nov. 14	School-House Creek .....	150,000
Nov. 15	Cold Creek, below the bridge .....	150,000
Nov. 15	Sullaway Creek, at the mill .....	200,000
Nov. 15	Big Spring Creek .....	175,000
Nov. 15	Sullaway Creek, at Klink's .....	200,000
Nov. 20	Sullaway Creek, at junction .....	250,000
Nov. 20	School-House Spring Creek .....	150,000
Nov. 20	Big Spring Creek, in Klink's meadow .....	200,000
Nov. 20	Wagon Valley Creek .....	200,000
Nov. 20	Sacramento River .....	250,000
Nov. 20	Junction of School-House and Sullaway creeks .....	200,000
Dec. 2	Sullaway Creek .....	175,000
Dec. 2	Wagon Valley Creek .....	200,000
Dec. 2	Cold Creek .....	200,000
Dec. 2	Sullaway Creek, at Bridge .....	200,000
Dec. 2	Big Spring Creek .....	200,000
Dec. 7	Sacramento River .....	250,000
Dec. 7	Castle Creek .....	150,000
Dec. 7	Sullaway Creek, near Klink's .....	200,000
Dec. 7	Big Spring Creek, in Klink's meadow .....	200,000
Dec. 7	School-House Creek .....	100,000
Dec. 7	Wagon Valley Creek .....	100,000
Dec. 10	Lake Emeric .....	463,600
	Total .....	5,538,600



DISTRIBUTION OF THE FALL TAKE OF SALMON (*Onchorhynchus chouicha*)  
FROM THE BATTLE CREEK STATION—1895. (HATCHED AT SISSON.)

Date.	Distribution.	Number of Fry.
1895.		
Dec. 27	Sullaway Creek, near Klink's.....	150,000
Dec. 27	Wagon Valley Creek.....	150,000
Dec. 31	Big Spring Creek.....	150,000
Dec. 31	Sullaway Creek, at the ford.....	150,000
1896.		
Jan. 2	School-House Spring Creek.....	150,000
Jan. 2	Sullaway Creek, at the bridge.....	200,000
Jan. 2	Wagon Valley Creek.....	100,000
Jan. 4	Big Spring Creek, near Klink's.....	150,000
Jan. 4	Sullaway Creek, at the bridge.....	200,000
Jan. 6	Wagon Valley Creek.....	200,000
Jan. 6	School-House Spring Creek.....	150,000
Jan. 6	Big Spring Creek.....	150,000
Jan. 7	Junction of Cold and Sullaway creeks.....	200,000
Jan. 7	Wagon Valley Creek.....	150,000
Jan. 9	Big Spring Creek.....	150,000
Jan. 9	Sullaway Creek.....	150,000
Jan. 9	School-House Spring Creek.....	150,000
Jan. 10	School-House Spring Creek.....	200,000
Jan. 10	Sullaway Creek, at the mill.....	150,000
Jan. 10	Wagon Valley Creek.....	150,000
Jan. 11	School-House Spring Creek.....	150,000
Jan. 11	Big Spring Creek.....	150,000
Jan. 13	Sullaway Creek, at the mill.....	150,000
Jan. 13	Sacramento River.....	200,000
Jan. 14	School-House Spring Creek.....	150,000
Jan. 14	Sullaway Creek, near Klink's.....	150,000
Jan. 14	Wagon Valley Creek.....	150,000
Jan. 15	Sullaway Creek, at the bridge.....	150,000
Jan. 16	Sacramento River.....	200,000
Jan. 16	Castle Creek.....	150,000
Jan. 17	Wagon Valley Creek.....	150,000
Jan. 17	School-House Spring Creek.....	150,000
Jan. 27	Lake Emeric, Sisson Hatchery.....	1,500,000
Feb. 12	Lake Emeric, Sisson Hatchery.....	2,000,000
Feb. 15	Sullaway Creek.....	144,580
	Total.....	8,744,580





PICKFORD.—*Lucius lucius*.

DISTRIBUTION OF EASTERN BROOK TROUT (*Salvelinus fontinalis*) FROM Sisson Hatchery—1895.

Date.	Distribution.	Number of Fry.
1895.		
April 16	Robertson Creek, Mendocino County .....	15,000
April 16	Cold Creek, Mendocino County .....	5,000
April 23	Feather River, Yuba County .....	20,000
April 24	East Fork Rancherie Creek, Tulare County .....	5,000
April 24	Middle Fork Rancherie Creek, Tulare County .....	5,000
April 24	Tule River, Tulare County .....	10,000
April 24	White River, Tulare County .....	5,000
April 24	Poso Creek, Kern County .....	5,000
April 28	Green Valley Creek, Sonoma County .....	10,000
May 8	Santa Paula Creek, Ventura County .....	10,000
May 8	Sespe Creek, Ventura County .....	10,000
May 9	Pauma Creek and tributaries, San Diego County .....	10,000
June 3	Tripp's Creek, San Mateo County .....	5,000
June 5	Merced River, Yosemite Valley .....	7,500
June 5	Merced River, Little Yosemite Valley .....	5,500
June 5	Mirror Lake, Yosemite Valley .....	2,500
June 5	Tanaya Creek, Yosemite Valley .....	2,000
June 5	Alder Creek, Yosemite National Park .....	500
June 5	Bishop Creek, Yosemite National Park .....	500
June 5	Indian Creek, Yosemite National Park .....	500
June 5	Grouse Creek, Yosemite National Park .....	1,000
June 26	Shovel Creek, Siskiyou County .....	5,000
June 30	Webber Lake, Sierra County .....	10,000
June 30	Head of Prosser Creek, Nevada County .....	2,500
June 30	Squaw Creek, Nevada County .....	5,000
June 30	Bear Creek, Nevada County .....	2,500
June 30	Lake Independence, Nevada County .....	10,000
Aug. 19	McCloud River, Siskiyou County .....	20,000
Aug. 20	Sacramento River, near Soda Springs, Shasta County .....	5,000
Aug. 25	Castle Lake, Shasta County .....	2,000
	Total .....	197,000

DISTRIBUTION OF RAINBOW TROUT (*Salmo irideus*) FROM Sisson Hatchery—Season of 1895.

Date.	Distribution.	Number of Fry.
1895.		
June 20	Sacramento River, near Shasta Soda Springs .....	20,000
June 23	Wild Horse Valley Lake, Solano County .....	10,000
June 25	Palomares Creek, Alameda County .....	5,000
June 29	South Fork of Yuba River .....	5,000
July 6	Coyote Creek, Santa Clara County .....	10,000
July 6	Stevens Creek, Santa Clara County .....	10,000
July 8	Permanent Creek, Santa Clara County .....	5,000
July 11	Forsyth Creek, Mendocino County .....	10,000
July 11	Paper Mill Creek, Marin County .....	5,000
July 18	San Joaquin River, above Pollasky .....	10,000
July 18	Stephenson Creek, Fresno County .....	10,000
July 18	Coyote Creek, Fresno County .....	5,000
	Total .....	105,000

RAINBOW TROUT (*Salmo irideus*) Hatched at Shovel Creek Spawning Station—Season of 1895.

May 20	Shovel Creek, Siskiyou County .....	10,500
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RAINBOW TROUT (*Salmo irideus*) HATCHED AT SHOVEL CREEK SPAWNING STATION—SEASON  
OF 1896.

Date.	Distribution.	Number of Fry.
1896. June 1	Shovel Creek, Siskiyou County .....	25,000

DISTRIBUTION OF CUT-THROAT TROUT (*Salmo mykiss*) FROM SISSON  
HATCHERY—SEASON OF 1895.

Date.	Distribution.	Number of Fry.
1895.		
July 16	Butler Creek, Siskiyou County .....	25,000
July 19	Carmel River, Monterey County .....	50,000
July 22	Sullaway Creek, Siskiyou County .....	20,000
July 22	Cold Creek, Siskiyou County .....	10,000
July 22	Sacramento River, near Stevens Bridge .....	20,000
July 23	Sullaway Creek .....	10,000
July 23	Cold Creek .....	30,000
July 23	Sacramento River, near Stevens Bridge .....	10,000
July 24	Wagon Valley Creek, Siskiyou County .....	10,000
July 24	Big Spring Creek, Siskiyou County .....	20,000
July 24	School-House Creek, Siskiyou County .....	20,000
July 25	Sullaway Creek, Siskiyou County .....	20,000
July 25	Cold Creek, Siskiyou County .....	20,000
July 25	Sacramento River, near Stevens Bridge .....	10,000
July 26	Big Spring Creek, Siskiyou County .....	10,000
July 26	School-House Creek, Siskiyou County .....	20,000
July 26	Wagon Valley Creek, Siskiyou County .....	20,000
July 26	Warm Spring Creek, Sonoma County .....	25,000
July 26	Clear Lake, Lake County .....	25,000
July 26	Robertson Creek, Mendocino County .....	10,000
July 26	Walker Creek, Mendocino County .....	15,000
July 30	Santa Ana River, San Bernardino County .....	6,000
July 30	Mill Creek, San Bernardino County .....	4,000
July 30	Plunge Creek, San Bernardino County .....	5,000
July 30	City Creek, San Bernardino County .....	5,000
July 30	Deep Creek, San Bernardino County .....	4,000
July 30	Little Bear Creek, San Bernardino County .....	6,000
July 30	West Twin Creek, San Bernardino County .....	3,000
July 30	Cable Creek, San Bernardino County .....	2,000
July 30	Devil Cañon Creek, San Bernardino County .....	5,000
July 30	San Antonio Creek, San Bernardino County .....	10,000
July 30	North Fork Kaweah River, Tulare County .....	25,000
July 30	Kaweah River, near Red Hill .....	25,000
Aug. 4	Grindstone Creek, Colusa County .....	20,000
Aug. 4	Coal Creek, Colusa County .....	5,000
Aug. 7	Milliken Creek, above falls, Napa County .....	25,000
Aug. 10	Soledad Creek, Ventura County .....	12,000
Aug. 10	Santa Clara River, Ventura County .....	13,000
Aug. 10	Crystal Spring Lake, Los Angeles County .....	25,000
Aug. 10	Arrastra Creek, Los Angeles County .....	10,000
Aug. 10	Gleason Creek, Los Angeles County .....	5,000
Aug. 10	San Dimas Creek, Los Angeles County .....	5,000
Aug. 10	Sycamore Creek, Los Angeles County .....	5,000
Aug. 10	Kern River and tributaries .....	50,000
Aug. 16	Santa Ysabel Creek, San Diego County .....	25,000
Aug. 16	Chaparral Creek, Fresno County .....	5,000
Aug. 16	Bear Creek, Fresno County .....	5,000
Aug. 16	Big Creek, Fresno County .....	5,000
Aug. 16	Dinkey Creek, Fresno County .....	5,000
Aug. 16	Rush Creek, Fresno County .....	5,000
Aug. 16	Kings River, above Centerville, Kern County .....	10,000
Aug. 16	San Joaquin River, east of Landale's Mill, Fresno County .....	5,000
Aug. 20	Upper Blue Lake, Lake County .....	20,000
Aug. 20	Laurel Dell Lake, Lake County .....	20,000
Aug. 20	Middle Blue Lake, Lake County .....	10,000

## DISTRIBUTION OF CUT-THROAT TROUT FROM SISSON HATCHERY—Continued.

Date.	Distribution.	Number of Fry.
1895.		
Aug. 20	Coyote Creek, Santa Clara County.....	7,500
Aug. 20	Uvas Creek, Santa Clara County.....	10,000
Aug. 20	Llagas Creek, Santa Clara County.....	5,000
Aug. 20	Los Gatos Creek, Santa Clara County.....	5,000
Aug. 20	San Ysabel Creek, Santa Clara County.....	7,500
Aug. 20	Guadalupe Creek, Santa Clara County.....	7,500
Aug. 20	Saratoga Creek, Santa Clara County.....	7,500
Aug. 20	Adobe Creek, Santa Clara County.....	5,000
Aug. 21	Butte Creek, Siskiyou County.....	50,000
Aug. 23	East Austin Creek, Sonoma County.....	25,000
Aug. 23	Antelope Creek, Tehama County.....	25,000
Aug. 24	Garcia River, Mendocino County.....	25,000
Aug. 28	Upper Blue Lake, Lake County.....	10,000
Aug. 28	Middle Blue Lake, Lake County.....	10,000
Aug. 28	Laurel Dell Lake, Lake County.....	5,000
Aug. 28	Coyote Creek, Santa Clara County.....	7,500
Aug. 28	Uvas Creek, Santa Clara County.....	7,500
Aug. 28	Little Sulphur Creek, Sonoma County.....	25,000
Aug. 28	Llagas Creek, Santa Clara County.....	5,000
Aug. 28	San Ysabel Creek, Santa Clara County.....	7,500
Aug. 28	Los Gatos Creek, Santa Clara County.....	2,500
Aug. 28	Stevens Creek, Santa Clara County.....	7,500
Aug. 28	Permanenta Creek, Santa Clara County.....	7,500
Sept. 4	Paper Mill Creek, Marin County.....	25,000
Sept. 4	Austin Creek, Cazadero, Sonoma County.....	25,000
Sept. 14	Laurel Dell Lake, Lake County.....	20,000
Sept. 14	Middle Blue Lake, Lake County.....	10,000
Sept. 14	Upper Blue Lake, Lake County.....	20,000
Sept. 17	Echo Lake, Shasta County.....	25,000
Sept. 17	Castle Lake, Shasta County.....	25,000
Sept. 17	Sullaway Creek, at Junction with Cold Creek.....	55,000
Sept. 17	Wagon Valley Creek.....	80,000
Sept. 17	Big Spring Creek, junction with Sullaway Creek.....	70,000
Sept. 17	Sacramento River, near Stevens Bridge.....	100,000
Sept. 18	School-House Creek.....	50,000
Sept. 18	Castle Creek, Shasta County.....	25,000
Sept. 18	Castle Lake, Shasta County.....	25,000
Sept. 18	Cold Creek, above the bridge.....	100,000
Sept. 18	Sullaway Creek, below the mouth of Big Spring Creek.....	100,000
Sept. 18	Sacramento River, near mouth of Castle Creek.....	50,000
Sept. 18	Sacramento River, eighteenth crossing.....	50,000
Sept. 18	Sullaway Creek, below the mouth of Cold Creek.....	50,000
	Total.....	1,970,000

DISTRIBUTION OF CUT-THROAT TROUT (*Salmo mykiss*) FROM SISSON HATCHERY—SEASON OF 1896.

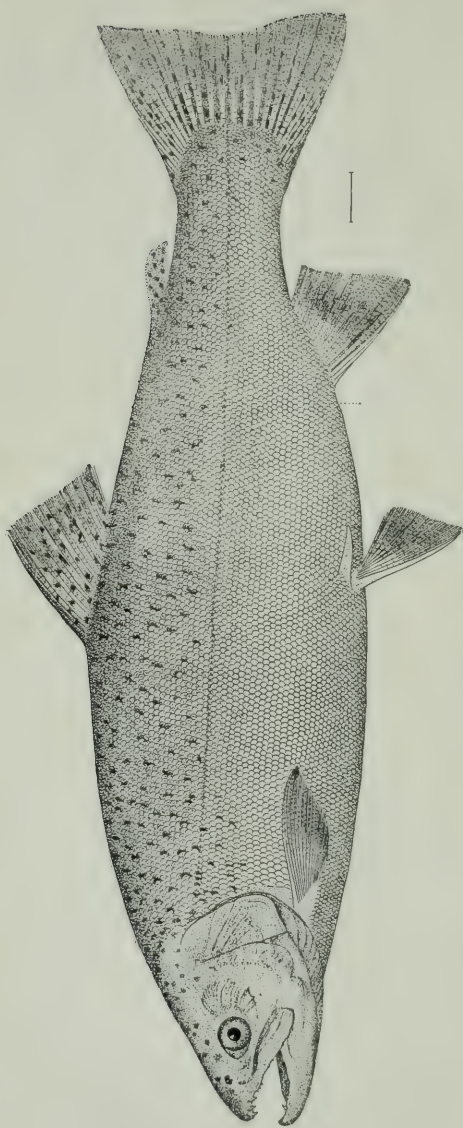
Date.	Distribution.	Number of Fry.
1896.		
June 25	Butte Creek, Siskiyou County.....	40,000
July 16	Sacramento River, near Shasta Springs.....	20,000
July 26	Deep Creek, San Bernardino County.....	2,500
July 26	City Creek, San Bernardino County.....	2,500
July 26	Plunge Creek, San Bernardino County.....	2,500
July 26	Fish Creek, San Bernardino County.....	2,500
July 26	West Twin Creek, San Bernardino County.....	2,500
July 26	Little Bear Creek, San Bernardino County.....	2,500
July 26	Mill Creek, San Bernardino County.....	2,500
July 26	Santa Ana River, San Bernardino County.....	2,500
July 26	San Antonio Creek, San Bernardino County.....	2,500
July 26	Deer Creek, San Bernardino County.....	2,500
July 26	Santa Ana River, above falls.....	15,000
July 26	Yucaipa Creek, San Bernardino County.....	10,000
July 26	Kern River, Kern County.....	25,000
July 29	McCloud River, Siskiyou County.....	50,000
Aug. 1	Carmel River, Monterey County.....	50,000

## DISTRIBUTION OF CUT-THROAT TROUT FROM SISSON HATCHERY—Continued.

Date, 1896.	Distribution.	Number of Fry.
Aug. 1	Sacramento River, near Shasta Springs.....	20,000
Aug. 6	Stevens Creek, Santa Clara County.....	20,000
Aug. 6	Smith Creek, Santa Clara County.....	20,000
Aug. 6	Indian Creek, Santa Clara County.....	10,000
Aug. 6	Wild Horse Valley Lake, Solano County.....	25,000
Aug. 6	Sacramento River, near Shasta Springs.....	10,000
Aug. 9	Gaddis Creek, El Dorado County.....	8,300
Aug. 9	Silver Creek, El Dorado County.....	17,000
Aug. 9	Silver Creek Lake, El Dorado County.....	8,000
Aug. 9	Water Gulch Creek, El Dorado County.....	2,000
Aug. 9	Slab Creek, El Dorado County.....	14,700
Aug. 9	Alpine Creek, El Dorado County.....	25,000
Aug. 12	Alameda Creek, above confluence with Calaveras Creek.....	25,000
Aug. 12	Gabilan River, Monterey County.....	25,000
Aug. 12	Carmel River, Monterey County.....	25,000
Aug. 16	Duncan's Lake, Los Angeles County.....	25,000
Aug. 16	Penasquit Creek, San Diego County.....	5,000
Aug. 16	Boulder Creek, San Diego County.....	22,500
Aug. 16	Guatay Creek, San Diego County.....	7,500
Sept. 5	Battle Creek, Tehama County.....	25,000
Sept. 5	Big Creek, Santa Cruz County.....	25,000
Sept. 8	Upper Blue Lake, Lake County.....	35,000
Sept. 8	Middle Blue Lake, Lake County.....	30,000
Sept. 8	North Fork Kaweah River, Tulare County.....	25,000
Sept. 8	Redwood Creek, Tulare County.....	25,000
Sept. 13	Middle Blue Lake, Lake County.....	30,000
Sept. 13	Upper Blue Lake, Lake County.....	30,000
Sept. 15	Yuba River, Placer County.....	50,000
Sept. 16	McCloud River, Siskiyou County.....	50,000
Sept. 18	Mountain Mill Creek, Napa County.....	16,500
Sept. 18	Wright Cañon Creek, Napa County.....	8,500
Sept. 18	Bear Creek, Napa County.....	25,000
Sept. 18	Bear Creek, above bridge, Napa County.....	15,000
Sept. 18	Oak Knoll Creek, Napa County.....	10,000
Sept. 19	Middle Blue Lake, Lake County.....	50,000
Sept. 19	Upper Blue Lake, Lake County.....	50,000
Sept. 19	Antelope Creek, Siskiyou County.....	25,000
Sept. 21	Branch of Boulder Creek, Santa Cruz County.....	20,000
Sept. 21	Branch of Bear Creek, Santa Cruz County.....	10,000
Sept. 21	Kings Creek, Santa Cruz County.....	20,000
Sept. 24	Hellman Creek, Mendocino County.....	18,000
Sept. 24	Dry Creek, Sonoma County.....	27,000
Sept. 24	Trout Creek, Mendocino County.....	27,000
Sept. 24	Bucknell Creek, Mendocino County.....	18,000
Sept. 26	Alameda Creek, Alameda County.....	20,000
Sept. 26	Lake Chabot, Alameda County.....	5,000
Sept. 26	Uvas Creek, Santa Clara County.....	10,000
Sept. 26	Llagas Creek, Santa Clara County.....	5,000
Sept. 26	Saratoga Creek, Santa Clara County.....	5,000
Sept. 26	Los Gatos Creek, Santa Clara County.....	5,000
Sept. 26	Calaveras Creek, Santa Clara County.....	5,000
Sept. 26	Los Animas Creek, Santa Clara County.....	5,000
Sept. 26	Packwood Creek, Santa Clara County.....	5,000
Sept. 26	Coyote Creek, Santa Clara County.....	5,000
Sept. 26	Almaden Creek, Santa Clara County.....	5,000
Sept. 29	Sisquoc River, Santa Barbara County.....	10,000
Sept. 29	Santa Ynez River, Santa Barbara County.....	40,000
Oct. 3	Balls Creek, Siskiyou County.....	10,000
Oct. 6	South Fork El River, Mendocino County.....	50,000
Oct. 6	Paper Mill Creek, Marin County.....	25,000
Oct. 6	Austin Creek, Sonoma County.....	25,000
Oct. 11	Graham Creek, Sonoma County.....	50,000
Oct. 11	Stow Lake, Golden Gate Park.....	20,000
Oct. 13	School-House Spring Creek, Siskiyou County.....	11,650
Oct. 14	McCloud River, near Sisson Camp.....	50,000
Oct. 15	Butte Creek, Siskiyou County.....	25,000
Oct. 16	Sullaway Creek, Siskiyou County.....	25,000
Oct. 16	Castle Creek, Siskiyou County.....	25,000
Oct. 16	Big Spring Creek, Siskiyou County.....	30,000
Oct. 16	School-House Spring Creek, Siskiyou County.....	30,000
Oct. 16	Junction of Sullaway and Cold creeks.....	25,000
Total.....		1,741,650







STEELHEAD TROUT.—*Salmo gairdneri*.

DISTRIBUTION OF MACKINAW TROUT (*Salvelinus namaycush*) FROM SISSON  
HATCHERY—SEASON OF 1895.

Date.	Distribution.	Number of	
		Fry.	Yearlings.
May 19	Lake Tahoe, near Tahoe City.....	35,000	-----
May 25	Lake Tahoe, near Tallac.....	30,000	-----
	Total.....	65,000	-----

## SEASON OF 1896.

July 17	Lake Tahoe, near Tallac.....	-----	150
July 17	Lake Tahoe, near Tahoe City.....	-----	150
	Total .....	-----	300

DISTRIBUTION OF LOCH LEVEN TROUT (*Salmo trutta levenensis*) FROM SISSON  
HATCHERY—SEASON OF 1895.

Date.	Distribution.	Number of	
		Yearlings.	Adults.
June 30	Webber Lake .....	314	-----

## SEASON OF 1896.

July 10	Webber Lake.....	-----	997
July 14	Donner Lake .....	-----	50
July 17	Lake Tahoe, near Tallac .....	-----	25
July 17	Lake Tahoe, near Tahoe City .....	-----	25
July 23	Webber Lake .....	-----	600
	Total .....	-----	1,697

DISTRIBUTION OF DOLLY VARDEN TROUT (*Salvelinus malma*) FROM SISSON  
HATCHERY—SEASON OF 1895.

Date.	Distribution.	Number of Fry.
May 19	Squaw Creek at confluence with Truckee River.....	5,000

## SEASON OF 1896.

Oct. 8	Sacramento River, near Shasta Soda Springs .....	2,000
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DISTRIBUTION OF LANDLOCKED SALMON (*Salmo salar sebago*) FROM SISSON  
HATCHERY—SEASON OF 1896.

Date.	Distribution.	Number of Yearlings.
July 14	Webber Lake.....	250

DISTRIBUTION OF GERMAN BROWN TROUT (*Salmo fario*) FROM SISSON HATCHERY—SEASON OF 1896.

Date, 1896.	Distribution.	Number of Fry.
July 14	Webber Lake .....	25,000
July 17	Lake Tahoe, near Tallac .....	2,500
July 17	Lake Tahoe, near Tahoe City .....	2,500
July 18	Donner Lake .....	5,000
July 21	McCloud River .....	10,000
Sept. 5	Battle Creek, Tehama County .....	5,000
Sept. 5	Antelope Creek, Tehama County .....	5,000
Sept. 13	Blue Lake, Lake County .....	15,000
Sept. 18	Laurel Dell Lake, Lake County .....	10,000
Sept. 18	Castle Lake, Shasta County .....	10,000
Sept. 26	Echo Lake, Shasta County .....	5,000
Sept. 26	Sacramento River, near Castella .....	5,000
Sept. 21	Sacramento River, near Shasta Soda Springs .....	5,000
Total .....		105,000

DISTRIBUTION OF CUT-THROAT TROUT (*Salmo mykiss*) FROM TAHOE HATCH-ERIES—SEASON OF 1895.

Date.	Distribution.	Number of Fry.
1895.	TAHOE CITY.	
July 13	Donner Lake, Nevada County .....	20,000
July 14	Ward Creek, tributary to Lake Tahoe .....	25,000
July 15	Ward Creek, tributary to Lake Tahoe .....	25,000
July 16	Donner Lake, Nevada County .....	51,000
July 16	Prosser Creek, Nevada County .....	10,000
July 16	Frog Lake, Nevada County .....	5,000
July 18	Donner Lake, Nevada County .....	39,000
July 18	Donner Creek, Nevada County .....	5,000
July 18	Prosser Creek, Nevada County .....	10,000
July 20	Martis Creek, Nevada County .....	10,000
July 20	Frog Lake, Nevada County .....	5,000
July 20	Cold Creek, Nevada County .....	5,000
July 23	Barton Creek, tributary to Lake Tahoe .....	40,000
July 26	Webber Lake, Sierra County .....	50,000
July 29	Webber Lake, Sierra County .....	50,000
Aug. 1	Independence Lake, Nevada County .....	70,000
Aug. 3	Independence Lake, Nevada County .....	30,000
Aug. 5	Grass Lake, El Dorado County .....	10,000
Aug. 5	Susie Lake, El Dorado County .....	10,000
Aug. 5	Heather Lake, El Dorado County .....	5,000
Aug. 9	North Fork of the American River, near Summit .....	50,000
Aug. 13	Five Lakes, Placer County .....	10,000
Aug. 13	Five Lakes Creek, Placer County .....	5,000
Aug. 13	Squaw Creek, Placer County .....	5,000
Aug. 13	Bear Creek, Placer County .....	5,000
Aug. 14	Quail Lake and Creek, Placer County .....	25,000
Aug. 16	Five Lakes, Placer County .....	10,000
Aug. 16	Five Lakes Creek, Placer County .....	5,000
Aug. 16	Squaw Creek, Placer County .....	5,000
Aug. 16	Bear Creek, Placer County .....	5,000
Aug. 17	Fulton Creek, Nevada County .....	15,000
Aug. 17	Grannan Creek, Nevada County .....	20,000
Aug. 17	Otis Creek, Nevada County .....	15,000
Aug. 18	Blackwood Creek, tributary to Lake Tahoe .....	40,000
Aug. 19	Squaw Creek, Placer County .....	40,000
Aug. 21	Truckee River, above Truckee .....	60,000
Aug. 22	Martis Creek, Nevada County .....	50,000
Aug. 22	Sagehen Creek, Nevada County .....	50,000
	TALLAC.	
July 1	Fallen Leaf Lake, Tallac .....	120,000
July 2	Cascade Lake .....	130,000
July 3	Taylor Creek, tributary to Lake Tahoe .....	100,000
July 5	Lake Tahoe, near Cascade .....	50,000
Total .....		1,290,000

DISTRIBUTION OF CUT-THROAT TROUT (*Salmo mykiss*) FROM TAHOE HATCH-  
ERIES—SEASON OF 1896.

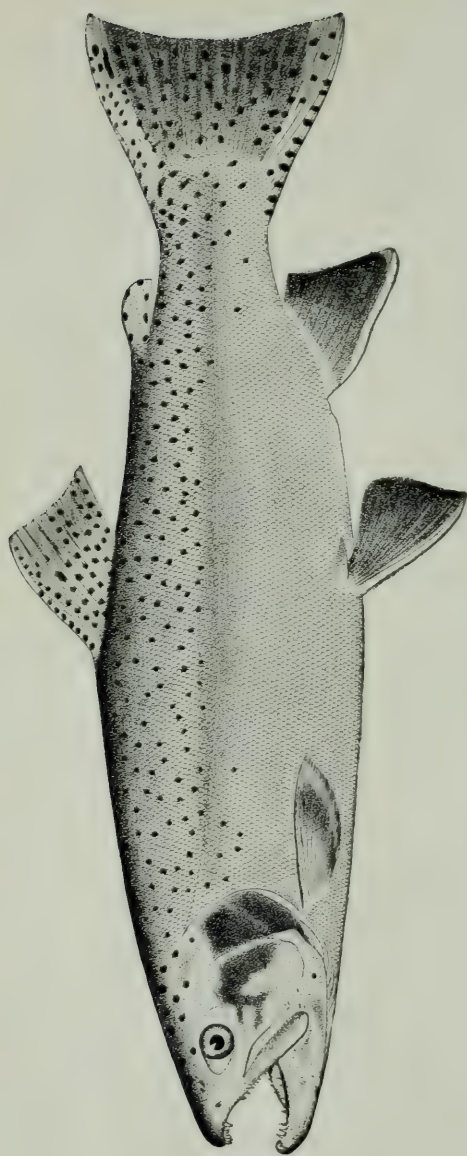
Date.	Distribution.	Number of Fry.
1896.	TAHOE CITY.	
July 7	Donner Lake.....	50,000
July 9	Donner Lake.....	25,000
July 10	Independence Lake.....	70,000
July 18	Truckee River, above Von Schmidt's dam.....	50,000
July 20	Blackwood Creek, near Dairy.....	50,000
July 29	Webber Lake.....	50,000
July 31	Sagehen Creek, Sierra County.....	25,000
July 31	Webber Lake, inlet.....	25,000
Aug. 2	Webber Lake.....	50,000
Aug. 4	Webber Lake, inlet.....	50,000
Aug. 5	Squaw Creek, Placer County.....	33,000
Aug. 6	Bear Creek, Placer County.....	33,000
Aug. 8	Donner Lake.....	60,000
Aug. 9	Five Lakes Creek, Placer County.....	14,000
Aug. 9	Five Lakes Creek, Placer County.....	20,000
Aug. 9	Donner Lake.....	40,000
Aug. 11	McKinney's Creek, tributary to Lake Tahoe.....	25,000
Aug. 12	North Fork of American River.....	25,000
Aug. 12	American River, Blue Cañon.....	25,000
Aug. 14	South Fork of Yuba River.....	25,000
Aug. 14	North Fork of American River.....	25,000
Aug. 15	Blackwood Creek, tributary to Lake Tahoe.....	33,000
Aug. 17	Ward Creek, tributary to Lake Tahoe.....	40,000
Aug. 17	Blackwood Creek, tributary to Lake Tahoe.....	40,000
Aug. 17	Burton Creek, tributary to Lake Tahoe.....	40,000
Aug. 18	Quail Creek, tributary to Lake Tahoe.....	50,000
Aug. 19	Alder Creek, Nevada County.....	8,000
Aug. 19	Carpenter Creek, Nevada County.....	8,000
Aug. 19	Frog Lake, Nevada County.....	9,000
Aug. 21	Rubicon River.....	25,000
	TALLAC.	
July 27	Taylor Creek, tributary to Lake Tahoe.....	50,000
July 31	Fallen Leaf Lake.....	50,000
Aug. 6	Cascade Lake.....	50,000
Aug. 13	Little Truckee River.....	50,000
Aug. 17	Emerald Bay, Lake Tahoe.....	50,000
Aug. 19	Echo Lake.....	60,000
Aug. 6-21	Taylor Creek, tributary to Lake Tahoe.....	418,000
	Total.....	1,715,000



DISTRIBUTION OF CUT-THROAT TROUT (*Salmo mykiss*) FROM WAWONA  
HATCHERY—SEASON OF 1895.

Date.	Distribution.	Number of Fry.
1895.		
June 30	Raymond Creek, Mariposa County .....	5,000
June 30	Big Creek, Mariposa County .....	5,000
June 30	Meadow Creek, Mariposa County .....	5,000
June 30	South Fork Merced River, Yosemite National Park .....	5,000
June 30	Bruce Creek, Yosemite National Park .....	4,000
July 4	Big Creek, Yosemite National Park .....	3,500
July 4	South Fork Merced River, Yosemite National Park .....	6,500
July 5	Big Creek, Mariposa County .....	5,000
July 5	South Fork Merced River, Yosemite National Park .....	5,000
July 6	Big Creek, Yosemite National Park .....	6,000
July 6	South Fork Merced River, Yosemite National Park .....	4,000
July 7	Big Creek, Yosemite National Park .....	5,000
July 7	South Fork Merced River, Yosemite National Park .....	5,000
July 8	Gibson Creek, Mariposa County .....	5,000
July 8	Big Creek, Mariposa County .....	7,500
July 8	South Fork Merced River, Yosemite National Park .....	2,500
July 8	Snow Creek, Mariposa County .....	1,300
July 8	Devil's Gulch Creek, Mariposa County .....	1,200
July 9	South Fork Merced River, Yosemite National Park .....	5,000
July 9	Big Creek, Yosemite National Park .....	5,000
July 10	Big Creek, Mariposa County .....	6,000
July 10	South Fork Merced River, Yosemite National Park .....	4,000
July 10	Stella Lake, Mariposa County .....	10,000
July 11	South Fork Merced River, Yosemite National Park .....	4,500
July 11	Big Creek, Yosemite National Park .....	7,500
July 12	Big Creek, Mariposa County .....	4,000
July 12	South Fork Merced River, Yosemite National Park .....	5,000
July 13	South Fork Merced River, Yosemite National Park .....	3,000
July 13	Big Creek, Yosemite National Park .....	6,000
July 14	Big Creek, Yosemite National Park .....	4,000
July 14	South Fork Merced River, Yosemite National Park .....	6,000
July 15	Merced River, Yosemite Valley .....	15,000
July 15	Yosemite Creek, Yosemite Valley .....	15,000
July 16	Big Creek, Yosemite National Park .....	5,000
July 16	South Fork Merced River, Yosemite National Park .....	5,000
July 17	Rush Creek, Yosemite National Park .....	7,500
July 17	Squirrel Creek, Yosemite National Park .....	7,500
July 18	Alder Creek, Yosemite National Park .....	10,000
July 18	Bishop Creek, Yosemite National Park .....	7,500
July 18	Indian Creek, Yosemite National Park .....	7,500
July 18	Bridal Veil Creek, above falls, Yosemite National Park .....	15,000
July 19	Big Creek, Yosemite National Park .....	5,000
July 19	South Fork Merced River, Yosemite National Park .....	5,000
July 21	Grouse Creek, Yosemite National Park .....	4,000
July 21	Merced River, in Lost Valley, Yosemite National Park .....	6,000
July 23	Grouse Lake, Yosemite National Park .....	5,000
July 23	Lake Johnson, Yosemite National Park .....	5,000
July 23	Buena Vista Lake, Yosemite National Park .....	5,000
July 25	East Fork Alder Creek, Yosemite National Park .....	3,000
July 25	West Fork Alder Creek, Yosemite National Park .....	3,000
July 26	Big Tree Creek, Mariposa Big Tree Grove .....	4,000
July 27	Big Tree Creek, above falls, Mariposa Big Tree Grove .....	1,500
	Total .....	293,000





RAINBOW TROUT, Adult Male.—*Salmo irideus*.

DISTRIBUTION OF RAINBOW (*Salmo irideus*) AND CUT-THROAT (*Salmo mykiss*)  
TROUT FROM WAWONA HATCHERY—SEASON OF 1896.

Date.	Distribution.	Number of Fry.	
		Rainbow.	Cut-throat.
1896.			
June 15	Stella Lake	100,000	
June 16	Coon Hollow Creek	10,000	
June 17	South Fork Merced River*		10,000
June 18	South Fork Merced River*		5,000
June 19	Big Creek*		5,000
June 20	South Fork Merced River, above bridge*		4,500
June 21	Big Creek*		2,000
June 22	Big Creek*		3,000
June 23	Junction South Fork Merced and Big Creek*		5,000
June 24	South Fork Merced River*		5,000
June 24	Junction South Fork Merced and Big Creek*		6,000
June 25	South Fork Merced River*		2,500
June 25	Big Creek*		2,500
June 26	South Fork Merced River*	2,500	
June 27	Big Creek, above ditch*		2,500
June 27	Bridal Veil Creek, above falls*	5,000	
June 28	Bridal Veil Creek, above falls*	5,000	5,000
June 28	South Fork Merced River*		4,500
June 29	Big Creek*		3,000
June 29	Hog Ranch Creek*†	2,000	1,000
June 30	Tuolumne River, in Little Hetchy*†	10,000	5,000
June 30	Babcock Creek*†	2,000	1,000
June 31	Slide River*†	3,000	
June 31	Rodgers River*†	5,000	3,000
July 3	South Fork Meadow Creek, Mariposa County	5,000	
July 3	North Fork Meadow Creek, Mariposa County		5,000
July 3	Wawona Creek, Mariposa County	5,000	
July 4	Alder Creek*	5,000	
July 4	Sawmill Creek, Mariposa County	5,000	
July 5	Big Creek*		2,500
July 5	South Fork Merced River*		2,500
July 6	South Fork Merced River*		2,500
July 6	Big Creek*		2,500
July 7	Big Creek*		2,500
July 7	South Fork Merced River*		2,500
July 8	Bishop Creek*	5,000	
July 8	Big Tree Creek, Mariposa Big Tree Grove	5,000	
July 8	Hite Creek, Mariposa County	5,000	
July 9	Bridal Veil Creek, Yosemite Valley	3,000	3,000
July 9	Yosemite Creek, Yosemite Valley	3,000	5,000
July 9	Cold Spring Creek, Yosemite Valley	3,000	
July 9	Tanaya Creek, Yosemite Valley	3,000	
July 10	South Fork Merced River*		2,500
July 10	Big Creek*		2,500
July 11	Sunrise Creek*	500	
July 12	Budd Creek, Tuolumne Meadows*	5,500	
July 12	Unicorn Creek, Tuolumne Meadows*		5,000
July 12	Dingley Creek, Tuolumne Meadows*	4,500	
July 12	Delaney Creek, Tuolumne Meadows*	4,500	
July 15	Swampy Creek*	1,000	
July 15	Chilnualna Creek, between falls*	2,000	2,000
July 16	Gibson Creek, Mariposa County	1,000	1,000
July 16	Laurel Creek, Mariposa County	1,500	1,500
July 16	Keho Creek, Madera County	1,000	1,000
July 16	Lewis Creek, Madera County	3,000	3,000
July 16	Upper North Fork San Joaquin River, Madera County	3,000	3,000
July 16	Lower North Fork San Joaquin River, Madera County	3,000	3,000
July 18	Illilouette River, above falls*	6,000	
July 18	Ellman Creek*†	6,000	
July 18	Merced Lake*†	6,000	6,000
July 20	Upper Stella Lake, for distribution	44,000	26,000
	Totals	284,000	160,000

\* Yosemite National Park.

† Hard trip. Number given represents fish which left hatchery, loss being quite heavy.



DISTRIBUTION OF SMALL-MOUTH BLACK BASS (*Micropterus dolomieu*)  
DURING SEASON OF 1895.

Date.	Distribution.	Number of Fish.	
		Fry.	Yearlings.
1895.			
May 23	Alameda Water Co., Berkeley .....	1,000	-----
May 23	Mountain View Lake, Alameda County .....	1,000	-----
May 23	Lake Temescal, Alameda County .....	1,000	-----
May 23	Clear Lake, Lake County .....	1,500	-----
May 28	Sacramento River, above Redding .....	2,960	-----
May 28	Sacramento River, below Redding bridge .....	3,000	-----
June 1	Lake Tahoe, near Tahoe City .....	1,000	-----
June 1	Lake Tahoe, near Tallac .....	1,000	-----
June 9	Kings River, near Kingsburg, Fresno County .....	1,000	-----
June 9	Kern River, Kern County .....	250	-----
June 10	Temecula River, Riverside County .....	500	-----
June 10	Escondido Lake, San Diego County .....	500	-----
June 10	Russian River, Sonoma County .....	5,000	-----
June 13	Alameda Creek, below Sunol, Alameda County .....	-----	28
June 13	Alameda Creek, above Niles, Alameda County .....	-----	47
June 20	San Joaquin River, near Los Baños .....	-----	200
June 23	American River, near Auburn, Placer County .....	-----	200
June 29	Mendocino Lake, near Point Arena .....	-----	150
June 30	Cache Creek, Capay Valley .....	-----	150
July 6	San Joaquin River, near Betheney and Tracy .....	-----	150
July 16	Lake of the Woods, Sierra County .....	-----	40
Totals .....		19,710	965

DISTRIBUTION OF LARGE-MOUTH BLACK BASS (*Micropterus salmoides*) FROM  
QUINCY, ILL., U. S. F. C. CAR No. 3—SEASON OF 1895.

Date.	Distribution.	Number of Fry.
1895.		
June 14	Lake Merced, San Francisco County .....	300
June 14	Crystal Springs Lake, San Mateo County .....	1,000
June 15	Sisson Hatchery Lake, Siskiyou County .....	1,200
June 16	Buena Vista Lake, Kern County .....	50
June 16	Gay Pond, San Diego County .....	50
June 16	Elsinore Lake, Riverside County .....	50
Total .....		2,650

DISTRIBUTION OF SMALL-MOUTH BLACK BASS (*Micropterus dolomieu*) DURING  
SEASON OF 1896.

Date.	Distribution.	Number of—	
		Fingerlings.	Adults.
1896.			
July 27	Merritt Lake, Alameda County .....	-----	30
Aug. 2	St. Mary's Park Lake, Tehama County .....	100	20
Aug. 2	Quin Lake, Trinity County .....	150	41
Aug. 8	American River, near Auburn .....	600	-----
Aug. 10	Eilet Lake, Santa Clara County .....	630	-----
Totals .....		1,480	91

## DISTRIBUTION OF FISH TAKEN FROM LAKE CUYAMACA DURING 1896.

1896.	To—	Large-Mouth Black Bass ( <i>Micropterus salmoides</i> ),		*Pickerel ( <i>Lucius reticulatus</i> ),	*Yellow Perch ( <i>Perca flavescens</i> ),	Green Sunfish ( <i>Lepomis cyanellus</i> ),		*Shiners ( <i>Notropis crassicauda</i> ),
		Adults.	Yearlings.			Adults.	Fingerlings.	
April 3	Trout's Lake, Los Angeles County					4		
April 5	Pond, Sisson Hatchery	4		2	4			
April 5	Sacramento River, Ball's Ferry	16			50			
April 5	Battle Creek	28	12	3				
April 16	Keymert Lake, Alhambra, Los Angeles County				10	10		10
April 18	Pond, Sisson Hatchery			4	44			6
April 18	Laguna de Santa Rosa, Sonoma County	6			10			
April 18	Clear Lake, near Lakeport	23	11	3				25
April 30	Grapevine Lake, Sacramento County	15	18		70			
April 30	Bushy Lake, Sacramento County	6	10		15			
April 30	Folsom Lake, Folsom	8	12		15			
May 10	Sweet Water Reservoir, San Diego County	5	100	7	120			100
May 14	Flood's Lake, near Escondido	16						25
May 14	Vail's Pond, Redondo Beach		8			5		
May 15	Pomeroey Lake, Burbank, Los Angeles County	8	9		76	8	50	40
May 15	Tulare Lake, mouth Cross Creek	6		6				
May 15	Hanford Lake, Tulare County	6			6	2		20
May 15	Kaweah River, Tulare County, near Pumpkin Hollow	14						
May 15	Tuolumne River, near Modesto	7	175	2	30	5	15	25
May 16	Sacramento River, near Corning						6	
May 16	Western Lake, Golden Gate Park						6	
May 16	Southern Lake, Golden Gate Park							2
May 16	Stow Lake, Golden Gate Park				4	5		
May 16	Upper Stow Lake, Golden Gate Park		8					
Totals		178	363	27	454	39	77	253

\*Adults.

## RECORD OF SPAWN-TAKING.

## RECORD OF WORK TAKING RAINBOW TROUT SPAWN AT BESWICK STATION.

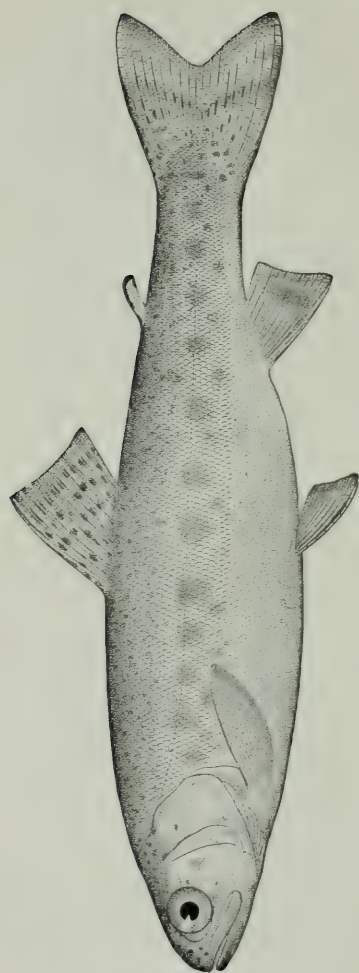
1895.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
February 1										Clear.	35°	41°	Wind north.
February 2										Clear.	39	40	Wind north.
February 3										Clear.	38	40	Wind north; sky hazy.
February 4										Clear.	37	38	Wind north; sky hazy.
February 5										Clear.	35	37	Air 16° above zero.
February 6										Clear.	34	37	
February 7										Cloudy.	38	39	
February 8										Clear.	38	40	
February 9										Clear.	38	40	
February 10										Cloudy.	40	42	Hazy P. M.
February 11										Cloudy.	40	43	Showing A. M.; 6 inches.
February 12										Cloudy.	40	43	Light rain P. M.
February 13										Cloudy.	38	40	Light rain prevailing.
February 14										Cloudy.	38	42	
February 15										Cloudy.	40	42	
February 16	1	3								Cloudy.	40	42	
February 17					4	4		6,000		Cloudy.	39	43	
February 18	3	1								Cloudy.	39	44	
February 19	1	3								Cloudy.	40	44	Light rain.
February 20	1	2								Cloudy.	40	44	
February 21										Cloudy.	40	44	
February 22	2	4			4	7		14,000		Cloudy.	40	43	Rain showers.
February 23	4	8			2	4		7,000		Cloudy.	38	41	Creek rising.
February 24	2	2	1	2						Clear.	38	45	
February 25					3	6		9,000		Clear.	37	44	Warm.
February 26		1								Clear.	36	42	
February 27										Clear.	37	44	
February 28		1			2	5		10,000		Cloudy.	40	44	Hazy.
Totals	14	25	1	2	15	26		46,000					

Average weight of fish—males, 3 pounds; females, 3½ pounds.

Lowest temperature of water, 34°; highest temperature of water, 45°.







RAINBOW TROUT, Young.—*Salmo irideus*.

## RECORD OF WORK TAKING RAINBOW TROUT SPAWN AT BESWICK STATION—Continued.

1895.	Number of Fish Taken.				Fish Spawmed.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
March 1	3	5								Cloudy.	40°	44°	
March 2	3	3								Cloudy.	40	43	
March 3		2								Clear.	37	42	
March 4	1	2	5	3	5	8	9,500			Clear.	36	40	
March 5										Clear.	38	44	
March 6			5	1						Clear.	37	43	
March 7	3	3	2	2	4	7	13,000			Clear.	39	42	
March 8			2	1						Clear.	39	45	
March 9	6	6	4	4						Clear.	37	44	
March 10			4	4	8	14	21,000			Clear.	36	44	
March 11	6	4								Clear.	36	44	
March 12			2	2						Cloudy.	38	41	
March 13					3	7	11,000			Clear.	36	41	
March 14			1	1						Cloudy.	36	40	
March 15										Cloudy.	35	41	
March 16										Cloudy.	38	42	
March 17										Clear.	38	41	
March 18	6	3								Cloudy.	38	44	
March 19	3	2			4	6	9,000			Cloudy.	39	44	
March 20	5	3								Cloudy.	39	43	
March 21										Cloudy.	39	44	
March 22										Cloudy.	39	44	
March 23	1	1			2	3	3,500			Cloudy.	37	42	
March 24			3							Cloudy.	40	46	
March 25	4	3	21	14						Clear.	38	48	
March 26	3	5	2	4	10	19	30,000			Cloudy.	41	46	
March 27	3	4	2	4						Cloudy.	42	48	
March 28	9	9	5	8	6	9	14,000			Cloudy.	44	46	
March 29	3	1		1						Cloudy.	40	44	
March 30					3	4	6,000			Cloudy.	39	42	
March 31	4	3	2	1						Clear.	39	46	
Totals	63	59	60	46	45	77	117,000			Cloudy.	41	46	

Average weight of fish—males, 3 pounds; females, 3½ pounds.  
 Lowest temperature of water, 35°; highest temperature of water, 48°.

## RECORD OF WORK TAKING RAINBOW TROUT SPAWN AT BESWICK STATION--Continued.

1895.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
April 1					8	12	13,000			Cloudy.	42°	44°	Heavy shower P. M.
April 2			3	3						Cloudy.	38	44	
April 3					3	5	5,000			Cloudy.	42	45	Rain P. M.
April 4										Cloudy.	38	40	
April 5		1			2	5	6,000			Clear.	36	44	
April 6			3	2						Clear.	40	48	
April 7			5	4						Clear.	41	48	
April 8	1	4			2	4	4,000			Cloudy.	44	47	Hazy P. M.
April 9			1	4						Clear.	43	47	Windy.
April 10				1						Cloudy.	40	44	Cold wind.
April 11				4	6	9	12,000			Clear.	40	47	
April 12			4							Clear.	39	48	
April 13	2	3	1	3						Cloudy.	44	46	Hard wind, some rain.
April 14										Clear.	44	48	'old and showery.
April 15										Cloudy.	44	47	'old and showery.
April 16										Cloudy.	44	47	Windy and showery.
April 17			1	2	5	7	7,000			Clear.	42	46	Perfect day.
April 18										Clear.	42	47	Warm.
April 19										Clear.	42	48	No fish running.
April 20				2						Clear.	41	49	Warm.
April 21										Clear.	43	48	No fish running.
April 22				6						Clear.	43	58	Warm.
April 23				7						Clear.	42	67	Warm.
April 24					9	12	20,000			Clear.	43	68	Warm.
April 25			4	4						Clear.	43	60	Thunder and lightning; rain in evening.
April 26					1	2	3,000			Cloudy.	44	50	Cloudy and sultry.
April 27				1						Cloudy.	43	48	'old.
April 28										Cloudy.	42	45	
April 29										Clear.	42	50	
April 30					2	5	5,000			Cloudy.	42	48	
Totals	3	8	22	43	38	61	75,000						

Average weight of fish—males, 3 pounds; females, 3½ pounds.  
 Lowest temperature of water, 36°; highest temperature of water, 68°.

## RECORD OF WORK TAKING RAINBOW TROUT SPAWN AT BESWICK STATION—Continued.

1865.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
May 1										Cloudy.	42°	48°	Rain.
May 2										Cloudy.	42	50	Showery.
May 3										Cloudy.	44	48	Rain.
May 4										Cloudy.	45	48	Rain, creek high.
May 5	5	1								Cloudy.	44	48	Rained all day.
May 6										Cloudy.	44	48	
May 7	3	1								Clear.	42	49	Warm.
May 8										Cloudy.	44	46	'Cold.
May 9										Clear.	38	46	Frost; cold.
May 10										Clear.	44	52	
May 11										Clear.	42	58	Very warm.
May 12										Clear.	46	57	
May 13										Clear.	45	58	
May 14										Clear.	46	60	
May 15										Clear.	46	62	
May 16										Clear.	48	60	
May 17										Clear.	47	60	
May 18										Clear.	48	63	
May 19										Clear.	48	62	
May 20										Clear.	48	62	
May 21										Clear.			Station closed.

Average weight of fish—males, 3 pounds; females, 3½ pounds.

Lowest temperature of water, 38°; highest temperature of water, 63°.

(Signed:) T. E. SULLIVAN, Superintendent.



## RECORD OF WORK TAKING CUT-THROAT TROUT SPAWN AT TAYLOR CREEK STATION, LAKE TAHOE.

1895.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
April 5			10	10						Clear.			Very cold, and west wind.
April 6			25	12						Clear.			Very cold, and west wind.
April 7			5	7						Clear.			Very cold, and west wind.
April 8			26	27						Clear.			Pleasant.
April 9			102	92						Clear.			Pleasant.
April 10			41	42						Clear.			Pleasant.
April 11			42	54						Cloudy.			Pleasant.
April 12			300	252						Cloudy.			Strong wind; 3 inches snow.
April 13			52	30						Clear.			Windy.
April 14			47	58			161	1	1	Clear.	35°		Windy.
April 15			32	37			167			Clear.	37		Windy.
April 16			57	73			310,000			Clear.			Windy.
April 17			4	6						Clear.			Windy.
April 18			169	164			150			Clear.			Very warm.
April 19			13	13			285,000			Clear.	37		Very warm.
April 20			160	181						Clear.			Strong east wind.
April 21			25	39						Clear.			Strong east wind.
April 22			57	35			180		2	Clear.			Strong east wind.
April 23			129	152			145			Clear.	38		Warm.
April 24			71	101			150		1	Clear.			Warm.
April 25			20	35			100		2	Cloudy.	39		P. M. rain and 2 inches snow.
April 26			15	42			126		2	Cloudy.			Squally A. M.; 10 inches snow P. M.
April 27			79	161						Cloudy.	39		Squally.
April 28			29	38			200		3	Clear.			
April 29			85	130			360,000		4	Cloudy.	41		
April 30			20	37						Cloudy.			
Totals			1,615	1,818	1,177	1,017	1,948,000	8	9				

Average weight of fish—males,  $1\frac{1}{2}$  pounds; females,  $1\frac{1}{4}$  pounds.  
 Lowest temperature of water, 35°.





CUT-THROAT, OR TAHOE TROUT.—*Salmo mykiss*.

## RECORD OF WORK TAKING CUT-THROAT TROUT SPAWN AT TAYLOR CREEK STATION, LAKE TAHOE—Continued.

1895.	Number of Fish Taken.				Fish Spawed.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
May 1	---	---	88	117	190	184	335,000	4	4	Cloudy.	44°	---	Rain P. M.
May 2	---	---	58	112	---	---	---	---	---	Cloudy.	---	---	Rain A. M.
May 3	---	---	81	142	200	193	371,000	10	3	Cloudy.	---	---	Showery.
May 4	---	---	42	58	---	---	---	---	---	Cloudy.	---	---	---
May 5	---	---	49	62	---	---	---	---	---	Clear.	---	---	Heavy southwest wind.
May 6	---	---	24	41	216	203	376,000	9	9	Clear.	---	---	Heavy southwest wind.
May 7	---	---	15	30	---	---	---	---	---	Clear.	---	---	Heavy southwest wind.
May 8	---	---	29	54	205	193	365,000	3	1	Clear.	---	---	Heavy southwest wind.
May 9	---	---	50	86	---	---	---	---	---	Clear.	---	---	Heavy southwest wind.
May 10	---	---	71	162	161	154	270,000	5	2	Clear.	---	---	Strong east wind.
May 11	---	---	18	42	---	---	---	---	---	Clear.	---	---	Strong east wind.
May 12	---	---	32	107	---	---	---	---	---	Clear.	---	---	Pleasant.
May 13	---	---	60	122	87	75	135,000	3	4	Clear.	---	---	Pleasant.
May 14	---	---	35	81	---	---	---	---	---	Clear.	---	---	Pleasant.
May 15	---	---	25	57	---	---	---	---	---	Clear.	---	---	Warm.
May 16	---	---	---	---	---	---	---	---	---	Clear.	---	---	Warm.
May 17	---	---	14	35	---	---	---	---	---	Clear.	---	---	Clear.
May 18	---	---	---	---	183	160	280,000	7	1	Clear.	---	---	Clear.
May 19	---	---	4	15	---	---	---	---	---	Clear.	---	---	Clear.
May 20	---	---	---	---	---	---	---	---	---	Clear.	---	---	Clear.
May 21	---	---	---	---	---	---	---	---	---	Clear.	---	---	Clear.
May 22	---	---	---	---	98	87	160,000	8	2	Clear.	---	---	Clear, ceased operations.

Average weight of fish—males, 1½ pounds; females, 1¼ pounds.  
 Lowest temperature of water, 44°.

(Signed.) E. W. HUNT, Superintendent.



## RECORD OF WORK TAKING CUT-THROAT TROUT SPAWN AT BLACKWOOD CREEK STATION, LAKE TAHOE.

1895.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
July 2			3							Clear.			
July 3			2	1						Clear.			
July 4			1							Clear.			
July 5			6	2						Clear.			
July 6										Clear.			
July 7			7	3						Clear.			
July 8										Clear.			
July 9				8						Clear.			
July 10			4	1						Clear.			
July 11			3							Clear.			
July 12			7	3						Clear.			
July 13			12	2						Clear.			
July 14			12	4						Clear.			
July 15			15	4						Clear.			
July 16			7	4						Clear.			
July 17			11	6	40	35	63,000	5		Clear.	51°		
July 18			7	5						Clear.			
July 19			45	28						Clear.			
July 20			6	4				1		Clear.			
July 21			4	1				3		Clear.			
July 22			1	4						Clear.			
July 23			3	2	42	34	61,000	2		Clear.	52		
July 24			4	2						Clear.			
July 25			3	1						Clear.			
July 26			5	2						Clear.			
July 27			8	6						Clear.			
July 28			5	4						Clear.			
July 29			6	2						Clear.			
July 30			5	1						Clear.			
July 31			6	2	30	24	36,000	3	2	Clear.	51		-----Ceased operations.
Totals			198	102	112	93	160,000	14	2				

Average weight of fish—males, 1½ pounds; females, 1¼ pounds.  
Lowest temperature of water, 51°.

(Signed :) E. W. HUNT, Superintendent.

## RECORD OF WORK TAKING SALMON SPAWN AT BATTLE CREEK STATION.

1895.	* Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
October 21	---	---	---	---	11	11	50,000	---	11	Clear.	53°	60°	---
October 22	---	---	---	---	28	28	150,000	---	28	Clear.	52	60	---
October 23	---	---	---	---	---	---	---	---	---	Clear.	51	60	---
October 24	---	---	---	---	37	37	200,000	---	37	Clear.	50	61	---
October 25	---	---	---	---	42	42	259,000	---	42	Clear.	50	60	---
October 26	---	---	---	---	33	33	179,000	---	33	Clear.	50	60	---
October 27	---	---	---	---	---	---	---	---	---	Clear.	50	58	---
October 28	---	---	---	---	76	76	462,000	---	76	Clear.	51	58	---
October 29	---	---	---	---	103	103	555,000	---	103	Clear.	50	58	---
October 30	---	---	---	---	64	64	372,500	---	64	Clear.	50	58	---
October 31	---	---	---	---	38	38	221,000	---	38	Clear.	48	57	---
Totals	---	---	---	---	432	432	2,448,500	---	432	---	---	---	---

Average weight of fish—males, 36 pounds; females, 28 pounds.  
 Lowest temperature of water, 48°; highest temperature of water, 61°.

\* Only ripe fish taken out of net.

## RECORD OF WORK TAKING SALMON SPAWN AT BATTLE CREEK STATION—Continued.

1895.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
November 1	---	---	---	---	133	133	660,000	---	133	Clear.	50°	58°	---
November 2	---	---	---	---	68	68	360,000	---	68	Clear.	51	58	---
November 3	---	---	---	---	64	64	330,000	---	64	Clear.	50	52	---
November 4	---	---	---	---	105	105	660,000	---	105	Clear.	48	53	---
November 5	---	---	---	---	---	---	---	---	---	Clear.	48	53	---
November 6	---	---	---	---	221	221	1,250,000	---	221	Clear.	46	52	---
November 7	---	---	---	---	96	96	525,000	---	96	Clear.	46	53	---
November 8	---	---	---	---	152	152	910,000	---	152	Clear.	46	55	---
November 9	---	---	---	---	---	---	---	---	---	Clear.	48	53	---
November 10	---	---	---	---	196	196	1,190,000	---	196	Clear.	50	52	---
November 11	---	---	---	---	208	208	1,190,000	---	208	Clear.	50	54	---
November 12	---	---	---	---	100	100	630,000	---	100	Clear.	48	54	---
Totals	---	---	---	---	1,343	1,343	7,705,000	---	1,343	---	---	---	Hatchery filled; racks taken out.

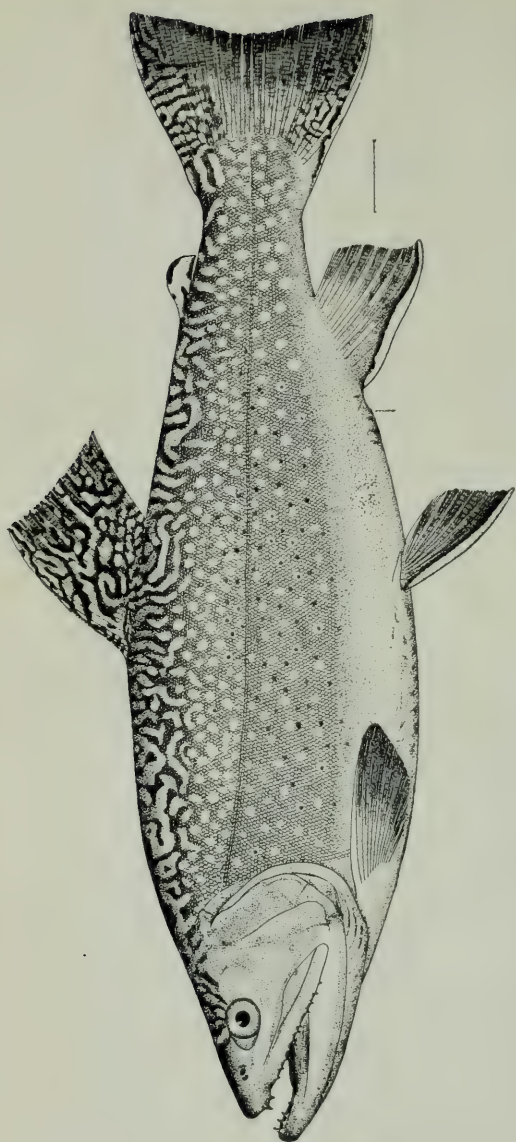
Average weight of fish—males, 36 pounds; females, 28 pounds.

Lowest temperature of water, 46°; highest temperature of water, 58°.

(Signed:) E. W. HUNT, Superintendent.







EASTERN BROOK TROUT.—*Salvelinus fontinalis*.

## RECORD OF WORK TAKING RAINBOW TROUT SPAWN AT BESWICK STATION.

1896.	Number of Fish Taken.				Fish spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
February 1	7	3								Cloudy.	40°	42°	----- Showery.
February 2	3	1								Clear.	40	43	----- Snow A. M.
February 3	3									Cloudy.	38	40	-----
February 4	3	1								Cloudy.	39	43	-----
February 5	6	3								Cloudy.	40	41	----- North wind.
February 6	5	4								Clear.	38	42	-----
February 7	2				10	10	12,500			Clear.	38	43	-----
February 8	3									Clear.	38	43	-----
February 9	1	1								Clear.	39	42	----- Cold wind.
February 10	5	1								Clear.	38	43	----- Cold wind.
February 11	3	1								Clear.	37	42	----- Cold wind.
February 12	2	3								Clear.	36	43	----- Cold wind.
February 13	2	3			6	6	7,500			Cloudy.	38	44	-----
February 14	1	3								Cloudy.	41	44	-----
February 15	10	6								Clear.	40	45	-----
February 16	3	5								Cloudy.	39	45	-----
February 17	5	5			19	14	20,000			Clear.	39	47	----- North wind.
February 18	6	6								Clear.	40	47	----- North wind.
February 19	8	3								Clear.	40	48	-----
February 20	4	8			19	14	24,000			Cloudy.	40	46	----- South wind.
February 21	19	9								Clear.	40	48	----- South wind.
February 22	2	7								Clear.	39	46	-----
February 23	4	3			41	19	27,000			Cloudy.	40	46	-----
February 24	24	9								Cloudy.	40	46	----- Rain P. M.
February 25	2	7								Cloudy.	40	46	----- Rain P. M.
February 26	75	79			42	33	54,000			Clear.	43	46	-----
February 27	45	28			17	13	20,000			Cloudy.	43	46	----- Rain.
February 28	30	22								Cloudy.	42	45	----- Showery.
February 29	3	2								Cloudy.	42	45	----- Snow.
Totals	283	226			154	109	165,000						

Average weight of fish—males, 2½ pounds; females, 2 pounds.  
 Lowest temperature of water, 36°; highest temperature of water, 48°.

## RECORD OF WORK TAKING RAINBOW TROUT SPAWN AT BESWICK STATION—Continued.

1896.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
March 1	8	1			30	30	45,000			Cloudy.	35°	38°	2 inches snow.
March 2	4	2								Cloudy.	36	39	Snow.
March 3										Cloudy.	37	39	Snow.
March 4										Cloudy.	35	40	Cold wind.
March 5		6			13	11	25,000			Cloudy.	36	40	2½ inches snow.
March 6										Cloudy.	39	42	
March 7		7								Cloudy.	39	44	
March 8	12	14								Cloudy.	41	43	
March 9	4	1			54	49	65,000			Clear.	38	46	
March 10	4	5								Clear.	40	46	
March 11	3	2								Clear.	41	49	
March 12	17	13								Clear.	40	50	
March 13	6	4			27	26	40,000			Clear.	40	50	
March 14	3	12								Cloudy.	40	43	Snow.
March 15	4	3								Cloudy.	39	48	
March 16	8	13								Cloudy.	44	50	Showery.
March 17	17	11			21	22	25,000			Clear.	43	52	
March 18	10	8								Cloudy.	42	50	
March 19	4	11								Cloudy.	44	52	
March 20	15	29								Cloudy.	46	58	
March 21	8	24			34	29	35,000			Clear.	44	48	Rain.
March 22	3	5								Cloudy.	44	48	Showery.
March 23	3	4								Cloudy.	45	50	Showery.
March 24	10	17								Cloudy.	45	48	Showery.
March 25	8	24								Cloudy.	44	48	Showery.
March 26	21	59			60	58	60,000			Cloudy.	46	47	Rain.
March 27										Cloudy.	42	48	Showery.
March 28										Cloudy.	39	46	
March 29										Cloudy.	42	45	Cold wind.
March 30	5	19			41	40	40,000			Cloudy.	39	45	2 inches snow.
March 31					29	26	20,000			Clear.	38	45	Windy.
Totals	182	294			309	289	355,000						

Average weight of fish—males, 2½ pounds; females, 2 pounds.

Lowest temperature of water, 35°; highest temperature of water, 58°.

(Signed:) W. H. SHEBLEY, Superintendent.

## RECORD OF WORK TAKING CUT-THROAT TROUT SPAWN AT TAYLOR CREEK STATION, LAKE TAHOE.

1896.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
April 1			32	14						Clear.			
April 2			97	69						Clear.			Light south wind.
April 3			130	112						Clear.			Light south wind.
April 4			39	31						Cloudy.			Strong south wind.
April 5										Cloudy.			6 inches snow; squally.
April 6			30	17						Cloudy.			
April 7			111	72						Cloudy.			
April 8			80	50	220		456,500	1	3	Cloudy.			
April 9			14	4						Cloudy.			Fast wind; heavy swell.
April 10										Cloudy.			12 inches snow.
April 11			55	46						Cloudy.			
April 12			116	109	110		208,250	4	2	Clear.			Rain; southwest wind.
April 13			71	45						Cloudy.			Squally.
April 14			1	1						Cloudy.			East wind.
April 15					100		220,000	1	1	Cloudy.			Squally.
April 16			67	59						Cloudy.			East wind.
April 17			19	18						Cloudy.			Squally.
April 18			6	9	70		142,600	3		Clear.			Strong southwest wind.
April 19			70	50						Clear.			10° above zero.
April 20			69	67						Cloudy.			10° above zero.
April 21			20	34	104		242,500		1	Cloudy.			Squally.
April 22			43	27						Cloudy.			Southwest wind.
April 23			29	26						Cloudy.			Squally.
April 24			1	3						Cloudy.			20 inches snow.
April 25			13	17	94		198,250	1	1	Cloudy.			Squally.
April 26			80	67						Cloudy.			Southwest wind.
April 27			59	47						Cloudy.			Southwest wind.
April 28										Cloudy.			Southwest wind.
April 29			118	74	110		229,250			Cloudy.			6 inches snow.
April 30										Cloudy.			
Totals			1,365	1,068			1,697,350	10	8				

Average weight of fish—males, 1¾ pounds; females, 1½ pounds. Lowest temperature of water, 38°; highest temperature of water, 42°.



## RECORD OF WORK TAKING CUT-THROAT TROUT SPAWN AT TAYLOR CREEK STATION, LAKE TAHOE—Continued.

1896.	Number of Fish Taken.				Fish Spawmed.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
May 1			2	4						Cloudy.			Squally; southwest wind.
May 2			58	47						Cloudy.			Squally; southwest wind.
May 3			39	41		92	190,250	3	1	Cloudy.			
May 4			40	39						Cloudy.			Rain and snow.
May 5			19	25				3		Cloudy.			Squally.
May 6			56	28		75	160,000			Cloudy.			Squally.
May 7			127	87						Cloudy.			Warm.
May 8										Cloudy.			Southwest wind.
May 9			16	23				2		Cloudy.			Southwest wind.
May 10			19	14		85	180,000			Cloudy.			Southwest wind.
May 11			15	20						Clear.			
May 12			76	77						Cloudy.			First warm day.
May 13			125	95						Cloudy.			Light east wind.
May 14								4	2	Cloudy.			Strong east wind.
May 15			74	76		105	200,000			Cloudy.			Strong east wind.
May 16			61	61				4	1	Cloudy.			Southwest wind.
May 17			36	49		155	283,900			Cloudy.			Southwest wind.
May 18			40	67		39	50,000			Clear.			South wind.
May 19			84	94						Cloudy.			South wind.
May 20			54	80		170	333,200	1	5	Clear.			Mild.
May 21			55	55						Cloudy.			Rain.
May 22			41	33						Cloudy.			Snow.
May 23			82	76		70	100,000	3	2	Cloudy.			Showery.
May 24			50	32		185	370,000			Cloudy.			Warm.
May 25			21	20						Clear.			Warm.
May 26			56	72		85	150,000	4	3	Clear.			Warm.
May 27			33	30						Cloudy.			Thunder shower.
May 28			5	17		145	200,000	7	2	Cloudy.			Showery.
May 29			7	10						Cloudy.			Warm.
May 30			4	6						Clear.			Thunder shower.
May 31			7	3		75	110,000	1	4	Clear.			Warm.
Totals.			1,302	1,281		1,281	2,317,350	37	20				

Average weight of fish—males, 1½ pounds; females, 1½ pounds.

Lowest temperature of water, 43°; highest temperature of water, 49°.

(Signed:) E. W. HUNT, Superintendent.

## RECORD OF WORK TAKING CUT-THROAT TROUT SPAWN AT BLACKWOOD CREEK STATION, LAKE TAHOE.

1896.	Number of Fish Taken.					Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.			P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.										
May 1											Clear.		Trap put in April 10th. No fish caught until May 4th.  Showery; heavy wind. 3 inches snow.  Cloudy. Cloudy. Cloudy. Cloudy. Cloudy. Cloudy. Cloudy. Cloudy. Clear. Clear. Clear. Cloudy. Cloudy. Cloudy. Cloudy. Snow and wind. Cold. Cold. Cold. Water very high.  Clear. Clear. Clear. Clear. Cloudy. Cloudy. Clear. Clear. Thunderstorms.	
May 2											Clear.			
May 3											Clear.			
May 4				1	1						Cloudy.			
May 5				2							Cloudy.			
May 6				4	9						Cloudy.			
May 7					2						Cloudy.			
May 8				3							Cloudy.			
May 9				2	2						Cloudy.			
May 10				2	2						Cloudy.			
May 11				2	2						Cloudy.			
May 12				6	4	18	73,300				Clear.			
May 13				2	4						Clear.			
May 14				6	9						Clear.			
May 15				5	6						Cloudy.			
May 16				3	2						Cloudy.			
May 17											Cloudy.			
May 18					2	19	50,000				Cloudy.			
May 19				1	1						Clear.			
May 20					4						Clear.			
May 21				2	4						Clear.			
May 22				2	3						Clear.			
May 23											Clear.			
May 24											Clear.			
May 25											Clear.			
May 26							13	60,000			Clear.			
May 27											Clear.			
May 28											Cloudy.			
May 29											Cloudy.			
May 30							7	40,000			Clear.			
May 31											Clear.			
Totals				45	57			223,300						

Average weight of fish—males, 7½ pounds; females, 7 pounds. Lowest temperature of water, 38°; highest temperature of water, 42°.

## RECORD OF WORK TAKING CUT-THROAT TROUT SPAWN AT BLACKWOOD CREEK STATION, LAKE TAHOE—Continued.

1896.	Number of Fish Taken.				Fish Spawned.		Number of Eggs Taken.	Fish Died from Any Cause.		Weather—Cloudy or Clear.	Temperature of Water.		Remarks.
	A. M.		P. M.		M.	F.		M.	F.		Lowest.	Highest.	
	M.	F.	M.	F.									
July 1			3	7						Clear.			
July 2			1	1						Clear.			
July 3			2	4						Clear.			
July 4			4							Clear.			
July 5			5	3						Clear.			
July 6										Clear.			
July 7										Clear.			
July 8										Clear.			
July 9			3	1						Clear.			
July 10			3	5						Clear.			
July 11			2	4						Clear.			
July 12			4	6						Clear.			
July 13			3	4						Clear.			
July 14			2	5						Clear.			
July 15			1	2			30	46,000		Clear.			
July 16			4	3						Clear.			
July 17			3	5						Clear.			
July 18			6	19						Clear.			
July 19			1	12						Clear.			
July 20			2	2						Clear.			
July 21			2	3			35	60,000		Clear.			
July 22			3	4						Clear.			
July 23			2	4						Clear.			
July 24			8	8						Clear.			
July 25			2	2						Clear.			
July 26				2						Clear.			
July 27										Clear.			
July 28							13	20,000		Clear.			Trap taken out.
Totals			66	106			78	126,000					

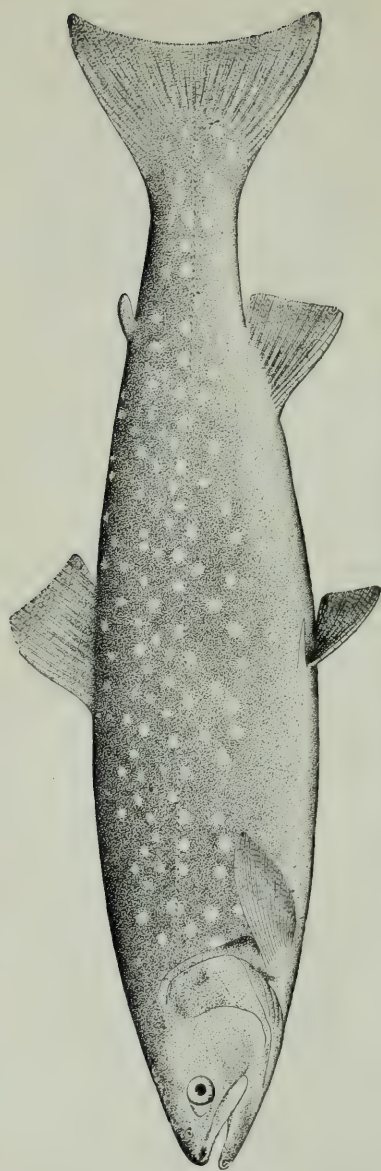
Average weight of fish—males, 2½ pounds; females, 2½ pounds.

Lowest temperature of water, 46°; highest temperature of water, 55°.

(Signed:) F. A. SHEBLEY, Assistant Superintendent.







DOLLY VARDEN TROUT.—*Salvelinus malma*.

## GAME STATISTICS.

TABLES SHOWING RECEIPT OF GAME BIRDS IN SAN FRANCISCO AND LOS ANGELES MARKETS,  
AND COUNTIES FROM WHICH SAME WERE SHIPPED.

\*TABLE No. 4—PROTECTED BIRDS—MONTH OF OCTOBER, 1895.

From County of—	Canvasback	Mallard	Sprig	Teal	Widgeon	Small Ducks	Gray Duck	Blackjack	Redhead	Butterballs	Wood Ducks	Wiretails	Sheldrake	Quail	Doves	Rail
Alameda														48		
Calaveras		20	8		23	8								186		
Colusa	1	42	92	67	54	8			1							
Contra Costa	4	113	148	292	41	16		20						176		
Fresno																
Kern		7	28	412	74	74		2	4					106	179	
Kings		94	81	239	44	21		7								
Marin																
Merced		284	814	4,170	407	86								490		
Monterey														88		
San Benito														461		
San Joaquin		90	26	63	87	10		11	1					66		
San Mateo	1													22		
Sacramento		12	13	3	32	11								314		
Solano		26	5	12	7	13										
Sonoma	2															
Siskiyou	14			4				9						414	1	
Stanislaus		18	13	3	9									5		
Tulare		21	46	41	8	6										
Yolo														48		
	27	330	320	68	757	104		3	2		140					
Totals	58	1,057	1,528	5,374	1,469	357		52	8		140		5	2,419	180	

\* Tables Nos. 1, 2, and 3 are to be found in report proper.

TABLE NO. 5—NON-PROTECTED BIRDS—MONTH OF OCTOBER, 1895.

From County of—	Larks.....	Wild Pigeon...	Common Snipe.....	English Snipe.....	Curlew.....	Plover.....	Gray Geese.....	White Geese.....	Brant.....	Honke.....	Swan.....	Crane.....	Bittern.....
Calaveras.....	110						13		5				
Colusa.....			16	43			81	18	1				
Contra Costa.....							213		56				
Fresno.....								10	162				
Glenn.....			2										
Kern.....			1		2		325	53	25			21	
Kings.....													
Madera.....	14						1,226	699	322			11	
Merced.....	42		130	34	21	9	38	9	12				
San Joaquin.....			10	44									
San Mateo.....							11						
Sacramento.....				2			47	71	29				
Solano.....			22	4									
Sonoma.....													
Siskiyou.....			3	3			198	51	46			2	
Stanislaus.....								54					
Sutter.....													
Tulare.....		96					229	21	2				
Yolo.....													
Totals.....	166	96	184	130	23	8	2,381	932	714			34	

TABLE No. 6—PROTECTED BIRDS—MONTH OF NOVEMBER, 1895.

From County of—	Canvas-back.	Mallard.	Sprig.	Teal.	Widgeon.	Small Ducks.	Gray Duck.	Black-jack.	Red-head.	Butter-balls.	Wood Ducks.	Wire-tails.	Sheldrake.	Quail.	Doves.	Rail.
Alameda.....	6	10	183	222	46	31					2			1,134		
Butte.....	4	27	16	14	48	12								1,326	65	
Calaveras.....					181	56		1	2					291		
Colusa.....	3	386	125	108	362	49	98	6	1					195	3	
Contra Costa.....	5	451	277	238	704	42		1					1	263		
Fresno.....		47	15	217	873									78		
Glen.....		71	703	2,188	440	1,470		3	37					4,598	73	2
Kern.....		242	265	200	235	84		2						34		
Kings.....		597	394	916	547	331								1,408	969	
Los Angeles.....	14	40	11	13	20	7								3,706		
Mariposa.....		63	11	2	13									360		
Mari.....	6	4	43	27	37	14			12					716	2	
Madera.....	1	18														
Mendocino.....														129		
Merced.....	12	2,815	2,143	7,216	3,461	583	5		8	2				1,411	9	
Monterey.....	1	4		19	7									12,663	3	
Napa.....	1	25	59	288	134	19										
Orange.....	38	38	461	407	157	279								2,806	879	
Plumas.....		83	31	5	2											
Riverside.....														1,411	37	
San Benito.....				98	47	4								2,815		1
San Bernardino.....		9		48	3	13		8						1,895	235	
San Diego.....		8	25	267	862	207	11		10		4			2,662	22	
San Joaquin.....	67	1,786	419	931	113	101		22	2		8			475		
San Luis Obispo.....	5	20	43	13										6,706	16	
San Mateo.....														1,073		
Santa Barbara.....	143	14	17	60	257	36	8		6					2,423		
Santa Clara.....	3	43	28	143	27	4								411		
Santa Cruz.....														393		
Sacramento.....	43	1,141	479	424	973	278		10	13	2			2	1,151	2	
Shasta.....	23	181	30	31	70	11										
Solano.....	216	1,319	628	865	1,364	300	2	79		5	20			2,472	120	1
Sonoma.....	350	35	83	74	28											
Siskiyou.....	315	446	520	260	234	109	89	6						659		
Stanislaus.....	12	828	667	2,532	666	132		2								
Sutter.....	67	518	217	119	423	134	3	82	7		8			121	13	
Tulare.....		105	43	153	24	15								503	32	
Tuolumne.....														453	33	
Ventura.....	144	3,133	2,073	1,111	3,805	678		6	17				1	253		
Yolo.....		68	4	16	20											
Yuba.....																
Totals.....	1,569	15,034	10,361	19,016	15,803	4,959	206	247	116	9	37	2	4	57,112	2,517	4



TABLE No. 7—NON-PROTECTED BIRDS—MONTH OF NOVEMBER, 1895.

From County of—	Larks	Wild Pigeon	Common Snipe	English Snipe	Curlew	Plover	Gray Geese	White Geese	Brant	Honker	Swan	Crane	Bittern
Alameda			45	1				3	32				
Butte	19	3					97	19	154				
Calaveras	5		9	6		88	96	5	6			2	
Colusa				143			492	80	710	38	3		
Contra Costa							96	131	421				
Fresno							17	4	24		4		
Glenn		12	185	108	20	3	21	59	43	13		3	
Kern													
Kings			252	261	17	174	1	4					
Los Angeles													
Mariposa				1									
Marin				19									
Madera			7	1			23	2	15				
Merced	12		86	245	75	11	1,345	546	2,033	59	7	26	
Modesto							47	8	7				
Monterey	9	76		16						6			
Orange			534	1	173	265	17	14					
Plumas							22	19	35	82		12	
Sacramento													
San Benito							4	1	7				
San Diego				8									
San Joaquin			10	241		2	383	66	74	29	3	4	
San Luis Obispo				157		4	11	1	18				
Santa Barbara		3		37		2							
Santa Clara				146									
Sacramento		34	1	37			365	26	20	1	2		2
Solano	43			125			327	137	193	63	6	31	3
Sonoma	281	27							1				
Siskiyou			2	15									
Stanislaus			12	134	4		441	196	428	29	1	3	
Sutter				7			323	195	451	10	11		
Tulare				6			4	16	16				
Yolo			6	193			1,031	297	146	2	14	1	
Yuba							11	10	3				
Totals	369	155	1,149	1,903	289	549	5,599	1,823	4,837	340	51	82	5

TABLE No. 8.—PROTECTED BIRDS—MONTH OF DECEMBER, 1895.

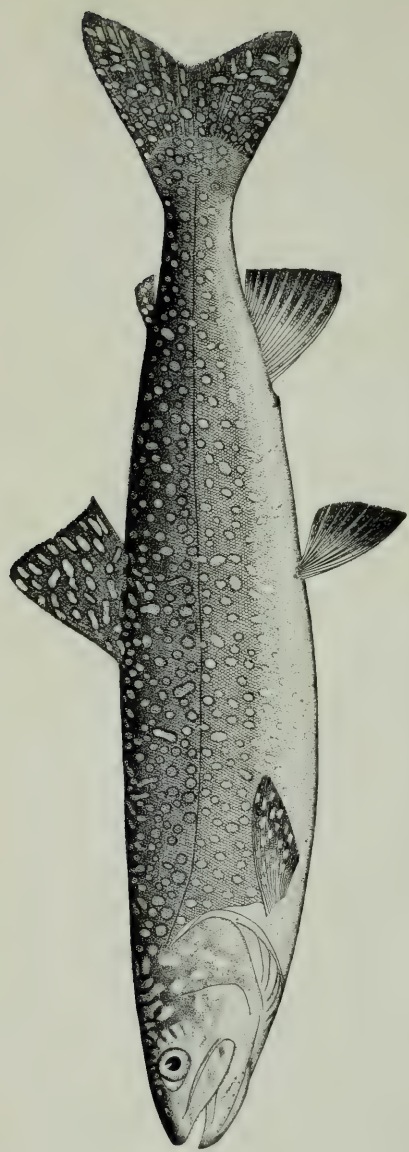
From County of—	Canvas-back.	Mallard.	Sprig.	Teal.	Widgeon.	Small Ducks.	Gray Duck.	Black-jack.	Red-head.	Butter-balls.	Wood Ducks.	Wire-tails.	Shel-drake.	Quail.	Doves.	Rail.
Alameda.....	22	11	121	236	35	203								692		
Butte.....		150	83	223	57	14				2				80		
Calaveras.....		27	5	43	16	8				5	6			1,982	8	
Colusa.....	9	435	98	48	85	14		6		3				155	2	
Contra Costa.....	74	582	347	502	145	185		19	3	4	23			23	2	
Fresno.....	6	830	569	1,208	601	130		1	5					284	1	
Glenn.....		29	49	1,480	1,076	9						5				
Kern.....	67	342	739	2,250	488	4,501			39	3				1,613	90	8
Kings.....	110	694	230	1,113	144	438		1	1		1			1,550	79	
Los Angeles.....	19	70	208	1,257	346	353								5,610		
Mariposa.....		76	41	38	21	14								423		
Marin.....	24	29	6	73	8	49			1					304		
Madera.....		10	14	5										177		
Mendocino.....														188		
Merced.....	53	2,058	1,199	8,240	5,749	1,219		34	4	1	2			858	4	
Monterey.....	113	43	16	72	281	31						10		16,688	23	
Napa.....	2	68	60	507	81	136								2,879	472	6
Orange.....	15	78	308	172	292	555								247		
Pacifica.....														660		
Riverside.....														5,309	12	
San Benito.....	21	276	12	23	18	21		5						5,637	101	
San Bernardino.....		3	95	96	61	13								3,972	41	
San Diego.....	6	8	44	236	1	296								309	77	
San Joaquin.....	25	2,905	552	1,621	667	451		124	7	5	2	5		8,696		
San Luis Obispo.....	54	97	40	185	317	15		1		5				978		
San Mateo.....		2	4	19	4	4								4,103		
San Pablo.....	262	19	14	69	243	20								45		
Santa Barbara.....		80	17	53	7	14				2				36		
Santa Clara.....	7													327		1
Santa Cruz.....																
Sacramento.....	153	1,177	502	926	628	838		15	8	29	8					
Shasta.....	18	31	6		7	8										
Solano.....	231	1,506	967	1,526	882	638		47	8	8	5	3		1	15	
Sonoma.....	348	36	76	250	50	62		21						2,965	1	1
Siskiyou.....	150	604	101	597	516	140		81	3	7				153		
Stanislaus.....	6	994	1,237	4,688	2,254	457		17	1					930	54	
Sutter.....	82	1,514	827	1,049	1,071	346		29	30	10	20	6		1		
Tulare.....		357	261	685	23	91								16	1	
Tuolumne.....														332		
Ventura.....	478	2,750	3	8,499	3,335	1,424		12	165	17		14		437	84	
Yolo.....	2	101	260	86	102	81			1			23		6		
Yuba.....													9	815		
Totals.....	2,300	18,956	10,614	33,176	19,544	12,809	321	333	281	96	123	56	32	70,370	1,112	16

TABLE No. 9.—NON-PROTECTED BIRDS—MONTH OF DECEMBER, 1895.

From County of—	Larks	Wild Pigeon	Common Snipe	English Snipe	Curlew	Plover	Gray Geese	White Geese	Brant	Honker	Swan	Crane	Bittern
Alameda					6		5	1	44				
Butte	204			1			10	14	2	2			
Calaveras							62	39	194	1			
Colusa			4	114	3	5	93	87	15	110	3	8	
Contra Costa							234	25	171	46	2		
Fresno				9			25	5	108	2	2		
Glenn			303	48	3	16	29	18	2	1	2		
Kern			240	196	234	340	14	12	26	13		1	
Kings				1			3	4					
Los Angeles							6	1					
Mariposa							9	1			1		
Madera							6	1					
Merced			89	140	3	4	930	410	1,030	107	17	28	
Monterey	15	4	390	31	174	134	13	8			2		
Orange				251			7		2				
San Benito				13		99							
San Bernardino			1	202		3	413	174	83	76		11	
San Joaquin			14	382	7		5	1					
San Luis Obispo													
San Mateo				19									
Santa Barbara			6	30		1	8				3		
Santa Clara				196							4		
Santa Cruz				3									
Sacramento	1			129			177	31	5	11	3		
Solano	66	26		255	8		415	262	391	276	38	21	
Sonoma	187	3	9	56			1		6	1			
Siskiyou								3					
Stanislaus			41		1		849	719	1,329	51	2	3	
Sutter			20				391	18	292	7	76	7	
Tulare								1	5	12			
Yolo	15	24	3	17		1	577	107	140	42	133	1	4
Yuba				133			8	2		2		2	
Totals	513	57	1,061	2,350	439	603	4,302	1,918	3,845	763	285	85	4







MACKINAW TROUT.—*Salvelinus namaycush*.

TABLE No. 10.—PROTECTED BIRDS—MONTH OF JANUARY, 1896.

From County of—	Canvas-back.	Mallard.	Spring.	Teal.	Widgeon.	Small Ducks.	Gray Duck.	Black-jack.	Red-head.	Butter-balls.	Wood Ducks.	Wire-tails.	Shel-drake.	Quail.	Doves.	Rail.
Alameda.....	98	3	79	153	11	75		2						571		
Butte.....		74	50	190	65	17								1,033		
Calaveras.....	12	285	165	171	214	46		4			1			61		
Contra Costa.....	289	269	234	278	15	162	137	637			3			5		
Fresno.....	2	581	597	498	319	69								282		
Glenn.....				19	52											
Kern.....	57	192	689	1,472	992	1,353		6	5				9	2,857	42	3
Kings.....	16	308	775	822	447	688		8		2			4	1,364	488	
Los Angeles.....	17	45	278	937	114	568			17					1,710	217	
Mariposa.....														167		
Marin.....														186		
Madera.....		10		7										126	36	
Mendocino.....														83		
Merced.....	13	1,866	1,306	4,898	2,916	779				58	2		133	248	7	
Monterey.....	17	41	36	22	143	36			1					9,233	47	
Napa.....	1	11	11	264	29	96										
Orange.....	7	40	316	578	196	412								2,869	169	2
San Benito.....	2	50	8		5	2								3,809	22	
San Bernardino.....														922	41	
San Diego.....	6		15	88	193		1							3,105		
San Joaquin.....	20	2,507	598	1,329	226	396		145	2	23	7	1	12	294		
San Luis Obispo.....	39	9	45	12	215	10				5				9,039	6	
San Mateo.....	7	1	1	12			2							488		
Santa Barbara.....	27	7	5	149	229	11		3						582		
Santa Clara.....	1	26	24	55	6	39								241		
Santa Cruz.....														102		
Sacramento.....	157	382	227	267	243	367	2	5	7	26	8		1	345		2
Shasta.....	13	92	30	42	33	39		18	2					14		
Solano.....	243	1,271	422	1,141	932	497		318		28			10	1,225	16	
Sonoma.....	281	36	59	282	92	211		5		3				130		
Siskiyou.....		106	106	271	25	43								204		
Stanislaus.....	6	322	361	1,778	1,194	211		7		11						
Sutter.....	87	615	959	563	903	172		2	11	6	8			215	67	
Tulare.....		150	33	232	7	105								342		
Tuolumne.....														118		
Yuba.....	570	1,896	1,624	2,624	2,978	639		89	8		109	30	7	441		
Totals.....	1,995	10,831	9,230	19,045	12,809	7,049	144	1,194	43	189	138	31	176	41,874	1,158	7

TABLE No. 11.—NON-PROTECTED BIRDS—MONTH OF JANUARY, 1896.

From County of—	Larks.....	Wild Pigeon	Common Snipe.....	English Snipe.....	Curlew.....	Plover.....	Gray Geese.....	White Geese.....	Brant.....	Honker....	Swan.....	Crane.....	Bittern.....
Alameda.....		12	1	10			23	2	69				
Butte.....		2					79	10	51				
Calaveras.....	483						18	12	126	1	9	1	
Colusa.....				12	2		570	237	186	42	4	26	
Contra Costa.....	9		1	26			3		14	95			
Fresno.....							8	1	21	1	1		
Glenn.....			127	86			80	25	202	35		2	
Kern.....			246	167	300	275	13	2	2				
Kings.....							1,177	1,139	1,618	329	10	22	
Los Angeles.....			14	90	7		8		1	2			
Madera.....	8			16			1,177	1,139	1,618				
Merced.....		12											
Monterey.....			270	355	107	120	9	22	1				
Napa.....				6			126						
Orange.....			5	105			180	103	28	98		24	
San Benito.....			3	251									
San Joaquin.....		22											
San Luis Obispo.....			5										
San Mateo.....			3										
Santa Barbara.....			5					26					
Santa Clara.....				14									
Sacramento.....				161		51	110	70	2	12	8		16
Shasta.....				6									
Solano.....	9			262		3	462	379	190	216	17	17	
Sonoma.....	241	8	25	20						9			
Siskiyou.....			1				1						
Stanislaus.....	41	22		38			674	343	853	60	2	2	
Sutter.....							152	48	225	8	24		
Tulare.....	112	23		4		1	5	16	36	2		1	
Yolo.....	16	50		56	2		324	126	137	70	81	4	
Yuba.....				2			12	3		1			
Totals.....	922	151	693	1,700	418	450	4,034	2,564	3,751	881	156	99	16

TABLE No. 12.—PROTECTED BIRDS—MONTH OF FEBRUARY, 1893.

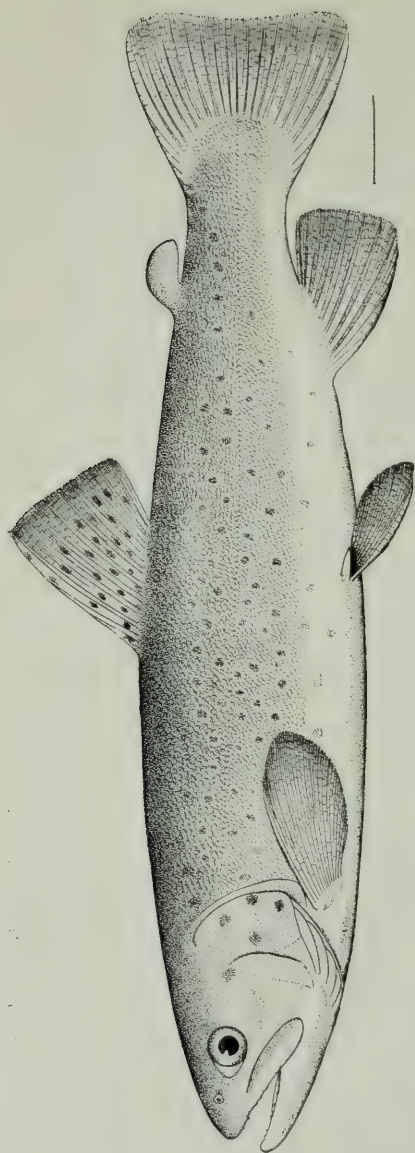
From County of—	Canvas-back	Mallard	Sprig	Teal	Widgeon	Small Ducks	Gray Duck	Blackjack	Redhead	Butter-balis	Wood Ducks	Wiretails	Sheldrake	Quail	Doves	Rail
Butte	2	11	6	25	1	6								712		
Calaveras		3	162	4												
Colusa	48			1	2	4		2								
Contra Costa	1	240	476	448	114	18								195		
Fresno	3	6	102	6	2	2		1						626		
Glenn		1	4	16				9	5					20	116	
Kern	7	160	209	124	36	54										
Kings		10	2											5		
Mariposa		2		4										148		
Madera						311								786	48	
Merced	1	198	354	2,647	1,490									297		
Monterey														164		
Orange																
San Benito																
San Joaquin	2	591	341	266	253	104		1	5	1				26		
San Luis Obispo														1,085		
San Mateo														160		
Santa Cruz														205		
Sacramento	48	160	225	199	51	14		16	16	6	2			636		
Solano	93	425	508	269	86	24		129	36	27				105		
Sonoma														132		
Siskiyou		8		5	6									396		
Stanislaus		12	255	1,533	530	75										
Sutter	1	261	394	96	66	23								80	29	
Tulare		73	15	32	6	9								310		
Tuolumne														3		
Yolo	71	409	217	243	98	64		19	9							
Yuba		17	9	6	56											
Totals	277	2,587	3,389	5,924	2,797	708		177	71	34	2			6,091	193	



TABLE No. 13--NON-PROTECTED BIRDS--MONTH OF FEBRUARY, 1896.

From County of—	Larks.....	Wild Pigeon.....	Common Snipe.....	English Snipe.....	Curlew.....	Plover.....	Gray Geese.....	White Geese.....	Brant.....	Honker.....	Swan.....	Crane.....
Butte.....	29						71	40	6			
Calaveras.....												
Colusa.....							1	263	341		11	23
Fresno.....			1				713		2	98		
Glenn.....							16	1				
Kern.....							3					
Kings.....		15					223	18	444	19		
Mariposa.....								20	2	12	5	2
Madera.....												
Merced.....	19			21	2		6	2,211	2,037	188	9	49
Orange.....				28			1,744					
San Benito.....	8								1	2		2
San Joaquin.....				278			48	2				
San Luis Obispo.....		38		4		9						
Sacramento.....								2				
Solano.....				21			6		3	2		
Sonoma.....	20						11	3				
Stanislaus.....					2		201	446	299	105		9
Sutter.....			57				12	1	32			
Tulare.....	308						41	5	1			
Yolo.....				11			6	2	3	1	1	
Yuba.....							1		1			
Totals.....	384	53	58	363	4	9	3,103	3,014	3,172	427	26	85





GERMAN BROWN TROUT.—*Salmo fario*.

# IN THE MATTER OF DUMPING SAWDUST INTO TRUCKEE RIVER.

BRIEF ON BEHALF OF THE PEOPLE OF THE STATE OF CALIFORNIA.

In the Supreme Court of the State of California.

THE PEOPLE OF THE STATE OF CALIFORNIA, upon the  
Information of W. F. FITZGERALD, Attorney-General of said  
State, *Respondent*,

vs.

THE TRUCKEE LUMBER COMPANY (a corporation), *Appellant*.

This action is brought by the People of the State of California, upon information of W. F. Fitzgerald, Attorney-General, against defendant, to restrain it from committing a nuisance by placing and allowing to pass into the Truckee River, a stream of fresh water, stocked with fish, large quantities of sawdust, shavings, slabs, edgings, and other waste from its sawmill and box factory, situated upon said river, which it is alleged pollutes the water thereof and makes it unfit for use, and that said substances are poisonous to and kill and destroy the fish in said river.

At the time of filing the complaint, the Court granted a temporary injunction, restraining defendant from the commission of the acts complained of. Defendant interposed a demurrer to the complaint, and moved a dissolution of the injunction.

Upon hearing of the motion, the Court overruled the demurrer, and denied defendant's motion to dissolve the injunction.

This appeal is prosecuted from the order refusing to dissolve the injunction.

The points made by appellant may be summed up as follows:

First—That the facts alleged in the complaint do not constitute a public nuisance;

Second—That injunction is not the proper remedy;

Third—That the Attorney-General has no authority in law to maintain this action in the name of the People;

Fourth—That the protection of fish is exclusively entrusted to the Fish Commissioners and the criminal courts.

We will treat the first point mentioned from two points of view:

First—That the general public has a property interest in the fisheries of the State, and that the State is trustee for the people;



Second—That the owner of the soil has a special property in fish so long as they are in the water that flows over his land.

*First*—Right of fishery in the public.

(A) The principle involved here is the same as that which existed under the common law of England.

By the common law, all fish within the waters of the realm and all animals *feræ naturæ* belong to the King. The right of taking game, and free fishery, was a royal privilege—a franchise granted by the King to certain of his subjects.

The reason of this law was, that the King is the ultimate proprietor of all the lands in the kingdom; they being all held of him as the chief lord, or lord paramount of the fee; and that, therefore, he had the right of the universal soil, to enter thereon, and to chase and take such creatures at his pleasure; and also upon another maxim of the common law: that these animals are *bona vacantia*, and, having no other owner, belong to the King by his prerogative. (Blackstone's Com., Book II, pp. \*39, \*40, \*415.)

The right of fishery as a prerogative is upon the same principle just cited.

The law of this country, so far as the principles involved in this case are concerned, is the same as the common law, to wit: that the original proprietorship of fish, and the right of fishery, are in the sovereignty of the States—the people themselves, who hold the fisheries in trust for the use of the public.

The sovereign power in the United States is in the people. (*Moore vs. Snow*, 17 Cal. 200; *Chisholm vs. Georgia*, 2 Dall. (A. S. Sup. C.), 471.)

Where the right of fishery existed in the King under the common law, that right exists in the people of the United States, and they, in their sovereign power, have the right to regulate the manner and method by which fish shall be taken, and may even prohibit the catching entirely, if they so elect, or may do any act in reference thereto.

From the earliest organization of our State government, the right to regulate and control the fisheries of the State was assumed by the Legislature, and this right has not, we think, been questioned.

As early as 1854, the Legislature passed an Act for the preservation of fish (salmon), declaring any weir, dam, or obstruction in any bay, strait, river, stream, creek, or slough of this State *to be a nuisance*. (Statutes 1854, p. 122.)

From that time down to the present, the Legislature has passed numerous Acts all tending to the preservation of fish within the State. Not only has the Legislature passed laws to protect the fish with which the streams were already stocked, but also large sums of public money have been expended in propagating fish and stocking the fresh-water streams of the State.

This right of control over the fisheries of the State by the Legislature is a recognition of the State's proprietary interest in and to the fish within its streams. If the authority vests in the State to enact laws for the preservation of the fish; if it can prohibit fishing in whole or in part; if it can expend public revenues for the propagation of fish, it is a recognition of the proprietary interest of the State in and to the fisheries.

It is obvious that anything which would injure or damage this proprietary interest of the State above set forth, and, as in this case, totally destroy the property, would be a *public nuisance*.

(B) The State holds the fisheries within its territory in trust for the public.

The State in its sovereign power holds the legal title to all fisheries within its borders in trust for the people. This is true as to the unnavigable as well as the navigable streams.

The same principle obtains as in the case of streams and the shores to high-water mark.

"Navigable streams and the shores to ordinary high-water mark are held by the State in trust for the public." (*Heckman vs. Street*, 99 Cal. 309-10.)

On the same principle, the State holds all highways, streets, etc., in trust for the people.

A trustee is a party in interest, and may maintain an action for an infraction of the rights of a beneficiary or damage to the property held in trust. (Section 369, Code of Civil Procedure; *Winters vs. Rush*, 34 Cal. 136; *Tyler vs. Houghton*, 25 Cal. 29; *West vs. Crawford*, 80 Cal. 19; *Walker vs. McCusker*, 71 Cal. 594; *Anson vs. Townsend*, 73 Cal. 419.)

*Second*—The owner of the soil has a special property in fish while in the water which flows over his land, and damage to or deprivation of that property right would be a nuisance, and, if affecting a number of persons, would constitute a *public nuisance*.

In order to constitute a public nuisance, it is not necessary to affect every person within the State, *but any considerable number of persons*.

Section 3480 of the Civil Code defines a public nuisance as one which affects an entire community—a neighborhood or *any considerable number of persons*.

In this case counsel concede that the acts complained of affect all owners of the soil along the stream, and as the complaint alleges the acts to be a public nuisance, and the complaint must be taken as true on this motion, it necessarily follows that a *considerable number of persons are affected*.

If the owners along the stream have a special property in the fish while in the water on their land, then the acts of the defendant con-

stitute a public nuisance, it affecting a *considerable number of persons*. (See the case of *People vs. Elk M. & L. Co.*, 107 Cal.; p. 219.)

That was an action to restrain the defendant from causing a public nuisance by allowing waste, sawdust, etc., from its sawmill to pass into the stream, which polluted its waters. The Court say:

"The Court found that Elk River is not a navigable stream. It is contended that it follows from that fact that fouling its waters cannot constitute a public nuisance. But it is found that the waters of Elk River, at and below defendant's dam, were, and have been, and now are used by a considerable number of persons who resided along the banks of said stream below the defendant's mill and dam. This constitutes such a public use as would make a pollution of water by any unreasonable use, a public nuisance."

THE DEFINITION IN THE CODE IS NOT EXCLUSIVE OF WHAT CONSTITUTES  
A PUBLIC NUISANCE.

Counsel assume that the Code has not defined the act complained of in this action to be a public nuisance and because it has not done so, or because the common law is silent upon the subject, that, therefore, it is *not* a nuisance.

We answer this in two ways:

*First*—The acts alleged in the complaint come clearly within the definition of a public nuisance in Sections 3479 and 3480 of the Civil Code.

Section 3479, C. C., says: "Anything which is injurious to health, or is indecent or offensive to the senses, or *an obstruction to the free use of property*, \* \* \* is a nuisance."

Section 3480, C. C., says: "A public nuisance is one which affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal."

What could be more explicit or applicable to the case at bar than this definition? The State, as has been shown, has a property interest in the fisheries within its borders, and the owners of the soil a right of property in the fish.

Defendant, by placing certain poisonous and deleterious substances in the Truckee River, is totally destroying the fish therein—the property of the plaintiff. This is not only "*an obstruction to the free use of the property*," but is more—a destruction of the property itself. It cannot be maintained that a total destruction of property is not an obstruction to the free use of the property. As to what constitutes a considerable number of persons, see case of *People vs. Elk M. & L. Co.*, 107 Cal. 219.

*Second*—That, even though the acts complained of do not come within the definition of nuisance in the Code, yet the Code is not exclusive.



In other words, an act may constitute a nuisance, though not specifically defined to be such by the Code.

Following are some general definitions of nuisance:

"Nuisance, *nocumentum*, or annoyance, signifies anything that worketh hurt, inconvenience, or damage; and nuisances are of two kinds: public, or common nuisances, which affect the public, and are an annoyance to all the King's subjects." \* \* \* (Blackstone's Commentaries, Book III, star page 216.)

"The term in legal phraseology is applied to that class of wrongs that arise from the unreasonable, unwarrantable, or unlawful use by a person of his own property, real or personal, or from his own improper conduct, working an obstruction of or injury to the right of another or of the public, and producing such material annoyance, inconvenience, discomfort, or hurt, that the law will presume a consequent damage." (Am. & Eng. En. of Law, Vol. 16, p. 924.)

Indeed, so numerous are the acts which might, under certain circumstances, constitute a nuisance, that it would be impossible for the statute to enumerate the same.

In the Am. & Eng. En. of Law (Vol. 16, p. 943), it is said "the variety of things, acts, and omissions which may constitute a nuisance is so great as to render an enumeration impossible; no particular combination of sources of annoyance being necessary to constitute a nuisance, and the possible sources of annoyances not being exhaustively defined by any rule of law."

Mr. Wood, in his work, aptly states the case, viz.:

"The question is not whether an act has been declared to be, but does it come within the idea of, a nuisance? If so, it is a nuisance, though never before held so; if not, it is not a nuisance, though held so in a thousand instances before." (Wood on Nuisances (3d ed.), Vol. I, Section 27.)

Counsel lay great stress upon the fact that there is a difference between navigable and unnavigable streams. We do not see that it makes any difference to the determination of this case.

If a dam or other obstruction should be placed in a stream, preventing fish from going up the stream, it would be a nuisance to the public. Why? Because it would prevent the fish from going to their spawning-grounds, and eventually exterminate them; because it would be depriving others of their property rights—the rights appendent to their lands—the fisheries thereon. It would deprive the riparian owner of his right to acquire property. Precisely the same principle is involved in this case. The result of respondent's acts is the total destruction of all fish in the stream below its mill, if not in the entire stream. This directly affects the public and deprives all persons on the stream below it of a vested property right.



A fishing privilege is a valuable consideration in addition to other riparian rights, and we ask what authority defendant has to so use its property that it may destroy the valuable rights and privileges of other persons? It could not do so with reference to any other species of property, and we know of no reason why it should be permitted to do so in this case.

It is a well-established principle of law that an owner of property must not use it, even in a lawful business, in such a manner as to interfere with another in the legitimate use of its property. (*Tuebner vs. California Street Railway Co.*, 66 Cal. 171.)

Suppose defendant, instead of placing the sawdust and refuse in the river and destroying the fish, had placed the same upon the land of other persons, we think it would not be seriously contended by counsel that such would not be a nuisance. The principle involved is no different in placing the same in a stream of pure water and killing the fish therein. In the instance cited, a nuisance is created, because it is a damage to property (his land), and obstructs the use of the same. In the case at bar, it is a nuisance because it is a damage to property rights (fishery).

#### REMEDY—INJUNCTION WILL LIE.

Counsel contend that, because the Penal Code has made the acts complained of a misdemeanor, a suit in a court of equity will not lie. This contention is not well founded.

The mere fact that the statute makes a certain act a penal offense does not necessarily remove the case from the jurisdiction of a court of equity. The question to be determined is one of fact.

If the acts complained of constitute a nuisance in fact, equity will interpose to abate the further continuance of the same.

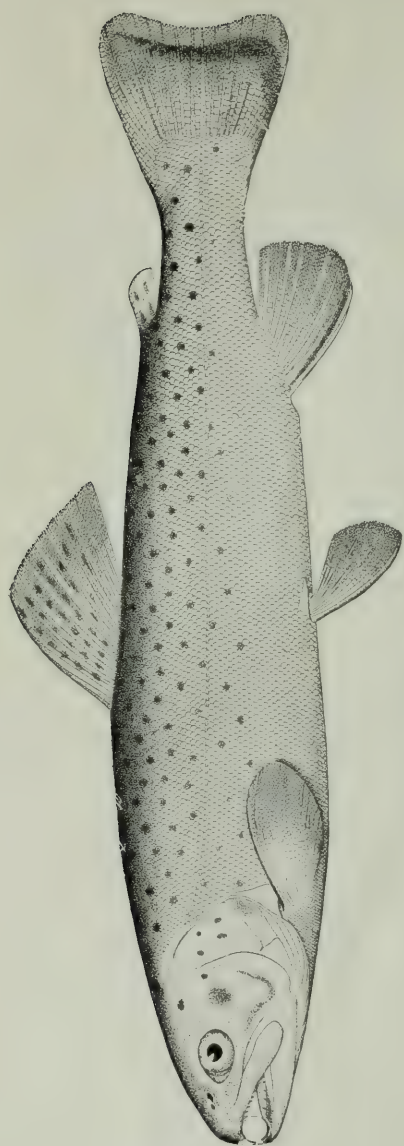
Section 3491 of the Civil Code provides: "That the remedies against a public nuisance are: (1) Indictment or information; (2) A civil action; (3) Abatement."

The courts of this State have decided the question several times. (See *Yolo Co. vs. City of Sacramento*, 36 Cal. 193; *People vs. Davidson*, 30 Cal. 380; *People vs. Gold Run D. & M. Co.*, 66 Cal. 150; Vol. 16 Am. & Eng. En. of Law, p. 940, and authorities there cited; Story on Equity Jurisprudence, Sections 921-3-4.)

In the case of *People vs. Gold Run D. & M. Co.*, *supra*, the Court hold: "Whenever an indictable nuisance exists there is a coördinate remedy in equity to abate it by injunction."

In the case of *Yolo County vs. City of Sacramento*, *supra*, the Court say: "If the dam is an obstruction to navigation, it is so far a public nuisance, for which the plaintiff cannot have a private action. In such cases the remedy is by indictment against the parties by whom the dam





LOCH LEVEN TROUT.—*Salmo trutta leucomenis*.

was built; \* \* \* or, perhaps, if the remedy is inadequate—that is to say, if there is imminent danger of irreparable mischief before the tardiness of the law can afford relief—equity may interpose and abate the nuisance upon the information of the Attorney-General.”

In the Am. & Eng. En. of Law, cited *supra*, it is stated that: “The remedies for injuries or offenses of this character (nuisance and purprestures) are by indictment; by proceedings at law known as an information of intrusion, resulting in *abatement*; and also in *proceedings in equity for abatement and injunction on information of the Attorney-General*, and sometimes, but not usually or necessarily, at the relation of a private person.”

Again, Story gives the law as follows (cited *supra*): “In regard to public nuisances, the jurisdiction of courts of equity seems to be of a very ancient date, and has been distinctly traced back to the reign of Queen Elizabeth. The jurisprudence is applicable not only to public nuisances, strictly so called, but also to purprestures upon public rights and property. \* \* \* In cases of public nuisances, properly so called, an indictment lies to abate them, and to punish the offenders. *But an information also lies in equity to redress the grievance by way of injunction.*” \* \* \* [The italics are by us.] “The ground of this jurisdiction by courts of equity in case of purpresture as well as of *public nuisances*, undoubtedly is their ability to give a more complete and perfect remedy than is attainable at law, in order to prevent irreparable mischief, and also to suppress oppressive and vexatious litigations. In the first place, they can interpose where the courts of law cannot to restrain and prevent such nuisances which are threatened or in progress, as well as to abate those already existing. In the next place, by a perpetual injunction, the remedy is made complete through all future time; whereas, an information or indictment at the common law can only dispose of the present nuisance; and for future acts new prosecutions must be brought. In the next place, the remedial justice in equity may be prompt and immediate, before irreparable mischief is done; whereas, at law nothing can be done, except after a trial and upon the award of judgment. In the next place, a court of equity will not only interfere upon the information of the Attorney-General, but also upon the application of private parties directly affected by the nuisance.”

In such a case as this the two jurisdictions do not conflict. The law side of the court may be invoked in cases of past transgressions of the public's rights; the equity side exercises its jurisdiction to prevent future transgressions. Upon the law side of the court, an action will not lie until the injury is done. Equity will interpose to prevent the injury—the jurisdiction of the one operates upon past actions; the jurisdiction of the other extends over future actions.

The complaint in this action shows that respondent is placing refuse



timber from its sawmill and box factory in the Truckee River, which poisons the fish, and that unless restrained all the fish in the river will be wholly exterminated.

It would be a poor commentary upon the efficiency of our law, if, in such a case as this, we are refused a preventive remedy, and compelled to wait until all the fish shall have been killed—all the injury done—before the law will act.

Furthermore, in order to show that a civil remedy may be invoked in the case of public nuisance, where the commission of the same is made a penal offense, we call the Court's attention to the Penal and Civil Codes. Sections 370-1 of the Penal Code are substantially the same as Sections 3479 and 3480 of the Civil Code. Yet, notwithstanding the fact that the Penal Code makes the acts stated therein a penal offense, the Legislature has by the Civil Code given a civil remedy for the same wrongful acts, demonstrating conclusively that a civil remedy may be invoked, notwithstanding the fact that a criminal action will lie.

A criminal action is no bar to a civil suit. (Section 618 of Wharton's Criminal Law, and cases cited.)

#### FISH COMMISSION HAS NO AUTHORITY TO ABATE A NUISANCE.

Counsel say that "the protection of fish in private streams is exclusively entrusted to the Fish Commissioners and the criminal courts."

We insist, first, that the Truckee River is not a private stream. It is one of the public rivers of this State.

It is a sufficient answer to this contention to say that no authority is given to the Fish Commissioners to abate a nuisance.

Their duties are to see that the laws for the preservation of fish and game are enforced. They have no other powers to this end than to invoke the aid of the courts. The Commissioners cannot judge of the guilt or punish offenders for the violation of the game and fish laws.

The authorities cited by counsel in support of their contention, is where a specific, sufficient, and adequate remedy is provided by statute, in which case such remedy is held exclusive.

Such is the law in this State in reference to matters where a plain and adequate remedy is provided. But the remedy must be sufficient and adequate to make it exclusive. In this case the Fish Commission can grant no relief—they can furnish no remedy whatever. Their only function in this regard is to see that the laws are enforced—not to enforce them themselves.

THE ATTORNEY-GENERAL IS AUTHORIZED TO MAINTAIN ACTIONS OF THIS  
CHARACTER IN THE NAME OF THE PEOPLE.

The People is the proper party on the complaint of the Attorney-General. (*People vs. Davidson*, 30 Cal. 388; *People vs. Gold Run, etc., Co.*, 66 Cal. 138, 56 Am. Rep. 80; *People vs. Pope*, 53 Cal. 437; *People vs. Blake*, 60 Cal., 497; *People vs. Reed*, 81 Cal. 70, Am. St. Rep. 22; *People vs. Hibernia Sav., etc., Society*, 84 Cal. 634; *People vs. Elk River M. & L. Co.*, 107 Cal. 215; *People vs. Beaudry*, 91 Cal. 220.)

The above are a few of the cases reported where actions have been brought in the name of the people to abate and restrain nuisances.

In the case of *A. G. vs. Shrewsbury Bridge Co.* (Eng. case), 21 C. D. 752, held, that where an illegal act is being committed, which in its nature tends to the damage of the public, the Attorney-General can maintain an action on behalf of the public to restrain the commission of the act without adducing any evidence of actual damage to the public; and the Court accordingly granted an injunction with costs, though no evidence of actual damage was given. (Brice on *Ultra Vires* (3d ed.), p. 761.)

Counsel attempts to draw a distinction between the Attorney-General bringing a suit in the name of the people on his own information and in bringing it on the relation of a private person.

There is no difference in its legal effect. The People is the party plaintiff and not the relator. The reason stated by counsel in their brief, to wit: that costs and expenses of suits could not be recovered against the State in case defendant was successful in such suit, and that by having a relator he would be responsible for costs, is not well founded. The State is liable for costs awarded against it, the same as a private individual.

The only object attained by bringing an action on the relation of a private person, is that the parties directly interested may be required to give the State security for costs; the bond is a protection to the State, not to the defendant.

Counsel seem to be under a misapprehension of the law in reference to security to the defendant afforded by a bond, according to their statement on page 22 of their brief.

The bond that may be required by the Attorney-General is simply for costs of suit—not for damages that may result by reason of the injunction. A relator would not be liable for such damages.

The authorities cited by counsel are not law now. The State and counties may be sued under existing statutes which make these decisions inapplicable to the case at bar.

To summarize upon this point, we state our former proposition that this is a public nuisance, and in either event—

First—If the State is the trustee of the fisheries within its borders, and the defendant is committing an unlawful act in destroying the same, the State, as such trustee, may maintain this action on complaint of the Attorney-General;

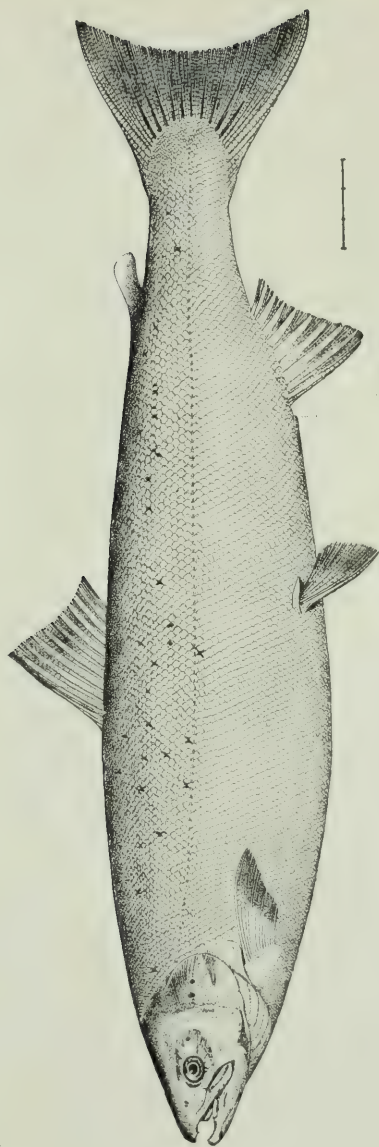
Second—If the riparian owners along this stream have a special property in the fish while in the waters on their land, the unlawful act of defendant is such an injury to their property rights as to constitute a public nuisance, and the People is the proper party in an action to abate the same.

We believe that it will not cause defendant any great injury or inconvenience to so arrange its mill and box factory as not to place the refuse, etc., in the river. We will close by using the language of the Court in the case of *Tuebner vs. California Street Railway Co.*, 66 Cal. 174, in which they say: "If the business be necessary or useful, it is always presumable that there is a proper place and a proper manner for carrying it on"; and we think in this case that no injustice will be done by restraining defendant from its unlawful act; but, on the contrary, if permitted to continue, great injustice and damage will be done to the public.

We respectfully submit that the judgment denying defendant's motion to dissolve the injunction should be affirmed.

W. F. FITZGERALD,  
Attorney-General, and  
HENRY E. CARTER,  
Deputy Attorney-General,  
Attorneys for Respondent.

SAN FRANCISCO, May 15, 1896.



LANDLOCKED SALMON.—*Salmo salar seabago*.



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